

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	900000	COLLEGE ACCOUNTING	This course introduces basic accounting principles for a sole proprietorship. Topics include the complete accounting cycle with end-of-period statements, bank reconciliation, payrolls, and petty cash. Upon completion, students should be able to demonstrate an understanding of accounting principles and apply those skills to a business organization. PREREQUISITE: As required by program.	10	12
2019-2020	900001	INDIVIDUAL INCOME TAXES	This course introduces the relevant laws governing individual income taxation. Emphasis is placed on filing status, exemptions for dependents, gross income, adjustments, deductions, and computation of tax. Upon completion, students should be able to complete various tax forms pertaining to the topics covered in the course. PREREQUISITE: As required by program.	10	12
2019-2020	900002	PAYROLL ACCOUNTING	This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries. PREREQUISITE: ACC 115 or ACC 244.	10	12
2019-2020	900003	INTRODUCTION TO ACCOUNTING SPREADSHEETS	This course provides a working knowledge of computer spreadsheets and their use in accounting. Topics include pre-programmed problems, model-building problems, beginning-level macros, graphics, and what-if analysis enhancements of template problems. Upon completion, students should be able to use a computer spreadsheet to complete many of the tasks required in accounting. PREREQUISITE: ACC 115 or ACC 241.	10	12
2019-2020	900004	COMPUTERIZED GENERAL LEDGER	This course introduces microcomputer applications related to the major accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting package to solve accounting problems. PREREQUISITE: ACC 115 and/or as required by program.	10	12
2019-2020	900005	INTERMEDIATE ACCOUNTING I	This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and statements and extensive analyses of balance sheet components. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards. PREREQUISITE: ACC 115 and BUS 141.	10	12
2019-2020	900006	INTERMEDIATE ACCOUNTING II	This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analyses, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered. PREREQUISITE: ACC 220.	10	12
2019-2020	900200	AIR FORCE TODAY I	A survey course of topics relating to the Air Force and national defense. Discussion of purpose, structure, and career opportunities in the United States Air Force. Introduction to effective written communications. The AFS 101 Leadership Laboratory is a co-curricular activity that includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900201	AIR FORCE TODAY II	Introduction to interpersonal communications. Seminar focusing on effective listening techniques, verbal and nonverbal communications. Practical exercises and group projects designed to demonstrate barriers to effective communications and techniques to overcome barriers. Development and presentation of oral communications. Strategy, technique, and delivery of effective oral presentations. Student practicum. The AFS 102 Leadership Laboratory is a co-curricular activity that includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. PREREQUISITE: As required by program.	10	12
2019-2020	900202	THE AIR FORCE WAY I	Historical survey of technological innovation in warfare. Focus on the emergence of air power and its significance in war and national security policy implementation. The FAS 201 Leadership Laboratory is a co-curricular activity that includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. PREREQUISITE: As required by program.	10	12
2019-2020	900203	THE AIR FORCE WAY II	Analysis of leadership and followership traits in the context of a modern military force. Discussion of ethical standards of military officers and Air Force core values. Introduction to total quality management. Advanced practical application of oral communications skills. Organization, research, delivery and audience analysis for briefings and presentations. Group leadership problems designed to enhance interpersonal communications. The AFS 202 Leadership Laboratory is a co-curricular activity that includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands. PREREQUISITE: As required by program.	10	12
2019-2020	900400	INTRODUCTION TO ANTHROPOLOGY	This course is a survey of physical, social, and cultural development and behavior of human beings. PREREQUISITE: As required by program.	10	12
2019-2020	900401	PHYSICAL ANTHROPOLOGY	This course is a study of the human evolution based upon fossil and archaeological records as well as analysis of the variation and distribution of contemporary human populations. PREREQUISITE: As required by program.	10	12
2019-2020	900402	CULTURAL ANTHROPOLOGY	This course is the application of the concept of culture to study of both primitive and modern society. PREREQUISITE: ANT 200.	10	12
2019-2020	900403	CULTURE AND PERSONALITY	This course explores the relationship between personality development and culture from a cross-cultural perspective. PREREQUISITE: ANT 200.	10	12
2019-2020	900404	INTRODUCTION TO ARCHAEOLOGY	This course is an introduction to archaeological excavation techniques and post-excavation laboratory procedures. PREREQUISITE: As required by program.	10	12
2019-2020	900405	FIELD SURVEY IN ARCHAEOLOGY	This course permits students to apply archaeological techniques to field research projects. PREREQUISITE: ANT 230.	10	12
2019-2020	900406	ARCHAEOLOGICAL LAB PROCEDURES	This course specializes in artifact conservation, cataloging, sorting, storage, and general post-excavation cultural material administration. Learning methodology and understanding the deterioration-susceptible of objects. PREREQUISITE: ANT 230.	10	12
2019-2020	900407	PRESERVATION LAB PROCEDURES	This course is primarily intended for students interested in pursuing museum science and archaeological laboratory procedures. It reviews technical information on curation, preservation, and conservation of physical and cultural objects. PREREQUISITE: ANT 230.	10	12
2019-2020	900408	INDIANS OF NORTH AMERICA	This course surveys the history, development, and culture of North American Indian tribes in Alabama. PREREQUISITE: ANT 200.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900600	ART APPRECIATION	This course is designed to help the student find personal meaning in works of art and develop a better understanding of the nature and validity of art. Emphasis is on the diversity of form and content in original art work. Upon completion, students should understand the fundamentals of art, the materials used and have a basic overview of the history of art. PREREQUISITE: As required by college.	10	12
2019-2020	900601	ART WORKSHOP I	The course provides an art experience for both non-art and art majors who are interested in a variety of art projects concerned with community or college related activities. Emphasis is placed on the organization of ideas in advancing their creative process. Upon completion, students should be able to present visual evidence of the activities involved and explain how the experience advanced their artistic skills. PREREQUISITE: As required by college.	10	12
2019-2020	900602	ART WORKSHOP II	This course provides an art experience for both non-art and art majors who are interested in a variety of art projects concerned with community or college related activities. Emphasis is placed on the organization of ideas in advancing their creative process. Upon completion, students should be able to present visual evidence of the activities involved and explain how the experience advanced their artistic skills. PREREQUISITE: Art Workshop I and/or as required by college.	10	12
2019-2020	900603	INTRODUCTION TO ART I	This course is designed as an introduction to the basic fundamentals of art. Emphasis is placed on personal expression and an understanding of the various art media. Upon completion, students should be able to express creative ideas visually and become more aware of media and how it effects communication. PREREQUISITE: As required by college.	10	12
2019-2020	900604	INTRODUCTION TO ART II	This course provides the opportunity for students to work with media problems beyond Introduction to Art I. Emphasis is placed on personal expression and an understanding of various art materials and techniques. Upon completion, students should improve their ability to express creative ideas visually. PREREQUISITE: ART 103.	10	12
2019-2020	900605	ART MUSEUM SURVEY	This course covers the art experienced through supervised visits to museums and art galleries. Emphasis is placed on learning through critical study. Upon completion, students should be able to write a critical analysis of the art work experienced that demonstrates an understanding of aesthetics. PREREQUISITE: As required by college.	10	12
2019-2020	900606	DRAWING I	This course provides the opportunity to develop perceptual and technical skills in a variety of media. Emphasis is placed on communication through experimenting with composition, subject matter and technique. Upon completion, students should demonstrate and apply the fundamentals of art to various creative drawing projects. PREREQUISITE: As required by college.	10	12
2019-2020	900607	DRAWING II	This course advances the students drawing skills in various art media. Emphasis is placed on communication through experimentation, composition, technique and personal expression. Upon completion, students should demonstrate creative drawing skills, the application of the fundamentals of art, and the communication of personal thoughts and feelings. PREREQUISITE: Drawing I.	10	12
2019-2020	900608	TWO DIMENSIONAL COMPOSITION I	This course introduces the basic of concepts of two-dimensional design. Topics include the elements and principles of design with emphasis on the arrangements and relationships among them. Upon completion, students should demonstrate an effective use of these elements and principles of design in creating two-dimensional compositions. PREREQUISITE: As required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900609	TWO DIMENSIONAL COMPOSITION II	This course covers the theories and practice of composing two-dimensional images. Emphasis is placed on the relation between the basic elements and principles of design and their impact on the visual message. Upon completion, students should, through personal expression, demonstrate an effective use of these elements and principles of design in creating two-dimensional compositions. PREREQUISITE: ART 121.	10	12
2019-2020	900610	COLOR	This course introduces the student to the fundamentals of color and color uses. Topics include various color theories, technical skills in mixing color, types of pigment and the expressive uses of color. Upon completion, students should be able to explain and demonstrate a fundamental understanding of color as it is used in the development of assigned color problems. PREREQUISITE: As required by college.	10	12
2019-2020	900611	THREE DIMENSIONAL COMPOSITION	This course introduces art materials and principles of design that acquaint the beginner with the fundamentals of three-dimensional art. Emphasis is placed on the use of art fundamentals and the creative exploration of materials in constructing three-dimensional art works. Upon completion, students should demonstrate basic technical skills and a personal awareness of the creative potential inherent in three-dimensional art forms. PREREQUISITE: ART 113 or ART 121.	10	12
2019-2020	900612	CERAMICS I	This course introduces methods of clay forming as a means of expression. Topics may include hand building, wheel throwing, glazing, construction, design, and the functional and aesthetic aspects of pottery. Upon completion, students should demonstrate through their work, a knowledge of the methods, as well as an understanding of the craftsmanship and aesthetics involved in ceramics. REREQUISITE: As required by college.	10	12
2019-2020	900613	CERAMICS II	This course develops the methods of clay forming as a means of expression. Topics may include hand building, glazing, design and the functional and aesthetic aspects of pottery, although emphasis will be placed on the wheel throwing method. Upon completion, students should demonstrate improved craftsmanship and aesthetic quality in the production of pottery. PREREQUISITE: ART 133.	10	12
2019-2020	900614	CRAFTS II	This course is an introduction to various creative crafts, which may include work with fibers, metal, glass or other media. Emphasis is placed on processes, techniques, materials and creative expression. Upon completion, students should be able to demonstrate creative uses of materials, a knowledge of the fundamentals of art, and an understanding of craftsmanship, and aesthetic quality. PREREQUISITE: As required by college.	10	12
2019-2020	900615	PHOTOGRAPHY I	This course is an introduction to the art of photography. Emphasis is placed on the technical and aesthetic aspects of photography with detailed instruction in darkroom techniques. Upon completion, students should understand the camera as a creative tool, understand the films, chemicals and papers, and have a knowledge of composition and history. PREREQUISITE: As required by college.	10	12
2019-2020	900616	PHOTOGRAPHY II	This course advances the students' technical and aesthetic knowledge of photography beyond the introductory level. Emphasis is placed on photographic composition and darkroom techniques as a means of communication. Upon completion, students should demonstrate through the photographic process his/her creative and communication skills. PREREQUISITE: ART 173.	10	12
2019-2020	900617	DIGITAL PHOTOGRAPHY	This course introduces students to digital imaging techniques. Emphasis is placed on the technical application of the camera, digital photographic lighting methods, and overall composition. Upon completion, students should be able to take digital images and understand the technical aspects of producing high quality photos. PREREQUISITE: As required by college	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900618	FILM MAKING	This course provides a knowledge of the basics of film-making. Emphasis is placed on procedure, equipment, editing and sound. Upon completion, students should demonstrate a basic knowledge of film making through critical analysis and film projects. PREREQUISITE: As required by college.	10	12
2019-2020	900619	COLOR PHOTOGRAPHY	This course covers the theory and problems in color processing and printing. Emphasis is placed on creative color uses. Upon completion the student should demonstrate a basic knowledge of communication through the processes of color photography. PREREQUISITE: ART 173 or ART 176.	10	12
2019-2020	900620	AUDIO-VISUAL TECHNIQUES	This course is an exploration of the area of linkage between the visual and auditory senses. Emphasis is placed on working with sound and recording equipment, projected images and multimedia hardware and software. Upon completion, students should be able to produce finished multimedia projects. PREREQUISITE: As required by college.	10	12
2019-2020	900621	INTRODUCTION TO GRAPHIC DESIGN	This course is a general introduction to graphic design. Topics include history, processes, and production design. Upon completion, students should understand the concepts used to create media graphics. PREREQUISITE: As required by college.	10	12
2019-2020	900622	PHOTOGRAPHY FILM AND MEDIA I	These course is composed of creative problems in darkroom techniques, laboratory techniques, and special effects. Emphasis is on creative self expression within a photographic environment. Students will demonstrate competencies in communicating through photography, film and media. PREREQUISITE: ART 173 or ART 174.	10	12
2019-2020	900623	PHOTOGRAPHY FILM AND MEDIA II	This course is composed of advanced creative problems in darkroom techniques, laboratory techniques and special effects. Emphasis is on creative self expression within a photographic environment. Students will demonstrate competencies in communicating through photography, film and media. PREREQUISITE: ART 187.	10	12
2019-2020	900624	ART LEGAL AND FINANCIAL MANAGEMENT	This course is designed to acquaint the student with funding sources, business procedure, and project planning for the visual artist. Topics include grants, budgeting, legal contracts and self-promotion. Upon completion, students should demonstrate a knowledge of the basics of managing an art related business. PREREQUISITE: As required by college.	10	12
2019-2020	900625	ART HISTORY I	This course covers the chronological development of different forms of art, such as sculpture, painting, and architecture. Emphasis is placed on history from the ancient period through the Renaissance. Upon completion, students should be able to communicate a knowledge of time period and chronological sequence including a knowledge of themes, styles and of the impact of society on the arts. PREREQUISITE: As required by college.	10	12
2019-2020	900626	ART HISTORY II	This course covers a study of the chronological development of different forms of art, such as sculpture, painting and architecture. Emphasis is placed on history from the Baroque to the present. Upon completion, students should be able to communicate a knowledge of time period and chronological sequence including a knowledge of themes, styles and of the impact of society on the arts. PREREQUISITE: As required by college.	10	12
2019-2020	900627	PRINTMAKING I	This course introduces various printmaking processes. Topics include relief, intaglio, serigraphy, or lithography and the creative process. Upon completion, students should have a basic understanding of the creative and technical problems associated with printmaking. PREREQUISITE: ART 113, ART 121 and/or as required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900628	PRINTMAKING II	This course provides the opportunity for the student to study a printmaking process beyond the introductory level. Emphasis is placed on creativity, composition, and technique in the communication of ideas through printmaking. Upon completion, students should demonstrate an understanding of the printmaking process as a creative tool for the expression of ideas. PREREQUISITE: ART 216 and/or as required by college.	10	12
2019-2020	900629	INTRODUCTION TO COMPUTER GRAPHICS	This course is designed to acquaint the student with the technology, vocabulary, and procedures used to produce artworks with computers. Emphasis is placed on the fundamentals of art, creativity, and the understanding of various graphic software. Upon completion, students should demonstrate a knowledge of computer graphics through production on a graphic program in a computer environment. PREREQUISITE: As required by college.	10	12
2019-2020	900630	COMPUTER GRAPHICS I	These courses are designed to enhance the student's ability to produce computer generated graphics. Emphasis is on the application of original design to practical problems using a variety of hardware and software. Upon completion students should have an understanding of professional computer graphics. PREREQUISITE: As required by college.	10	12
2019-2020	900631	COMPUTER GRAPHICS II	This course is designed to enhance the student's ability to produce an advanced level of computer generated graphics. Emphasis is on the application of original design to practical problems using a variety of hardware and software. Upon completion students should have an understanding of professional computer graphics. PREREQUISITE: As required by college.	10	12
2019-2020	900632	WATERCOLOR PAINTING I	This course introduces materials and techniques appropriate to painting on paper with water-based medium. Emphasis is placed on developing the technical skills and the expressive qualities of watercolor painting. Upon completion, students should be able to demonstrate a basic proficiency in handling the techniques of watercolor and how it can be used for personal expression. PREREQUISITE: ART 113, ART 121 and/or as required by college.	10	12
2019-2020	900633	WATERCOLOR PAINTING II	This course advances the skills and techniques of painting on paper using water based medium. Emphasis is placed on exploring the creative uses of watercolor and developing professional skills. Upon completion, students should demonstrate and compile a body of original paintings that reflect a personal awareness of the media's potential. PREREQUISITE: ART 231.	10	12
2019-2020	900634	PAINTING I	This course is designed to introduce the student to fundamental painting processes and materials. Topics include art fundamentals, color theory, and composition. Upon completion, students should be able to demonstrate the fundamentals of art and discuss various approaches to the media and the creative processes associated with painting. PREREQUISITE: ART 113, ART 121, and/or as required by college.	10	12
2019-2020	900635	PAINTING II	This course is designed to develop the student's knowledge of the materials and procedures of painting beyond the introductory level. Emphasis is placed on the creative and technical problems associated with communicating through composition and style. Upon completion, students should be able to demonstrate the application of the fundamentals of painting and the creative process to the communication of ideas. PREREQUISITE: ART 233.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900636	SCULPTURE I	This course provides a study of three-dimensional form by familiarizing students with sculpting media and techniques. Topics include the fundamentals of art, sculpting media with emphasis on the creative process. Upon completion, students should understand the fundamentals of art and three-dimensional form, as well as the various media and processes associated with sculpture. PREREQUISITE: ART 125, ART 127 and/or as required by college.	10	12
2019-2020	900637	SCULPTURE II	This course is designed to sharpen skills in the media and processes of sculpture. Emphasis is placed on personal expression through three-dimensional form. Upon completion, students should be able to apply the fundamentals of art, their knowledge of form, and the sculptural processes to communicating ideas. PREREQUISITE: ART 243.	10	12
2019-2020	900638	LETTERING I	This course introduces script and constructed lettering. Topics include types of lettering, materials, techniques, styles, layout and composition. Upon completion, students should be able to demonstrate lettering procedures and skills that reflect appropriate uses. PREREQUISITE: As required by college.	10	12
2019-2020	900639	LETTERING II	This course advances the students' lettering skills in script and constructed letter forms. Emphasis is placed on technical skills and creativity in using the constructed letter. Upon completion, students should demonstrate through assigned projects the personal, creative, and competent use of lettering styles. PREREQUISITE: ART 251.	10	12
2019-2020	900640	GRAPHIC DESIGN I	This course is designed to introduce the study of visual communication through design. Emphasis is placed on the application of design principles to projects involving such skills as illustration, layout, typography and production technology. Upon completion, students should demonstrate a knowledge of the fundamentals of art and understanding of the relationship between materials, tools and visual communication. PREREQUISITE: As required by college.	10	12
2019-2020	900641	GRAPHIC DESIGN II	This course further explores the art of visual communication through design. Emphasis is placed on the application of design principles to projects involving such skills as illustration, layout, typography and production technology. Upon completion, students should be able to apply the knowledge of the fundamentals of art, material and tools to the communication of ideas. PREREQUISITE: ART 253.	10	12
2019-2020	900642	TECHNICAL ILLUSTRATION I	This course is a study of illustrated drawings as prepared for industry. Emphasis is on techniques, perspective and axonometric drawing, and design. Upon completion the student should be able to apply good design and various illustrative techniques to enhance renderings. PREREQUISITE: As required by college.	10	12
2019-2020	900643	TECHNICAL ILLUSTRATION II	This course is an advanced study of illustrated drawings as prepared for industry. Emphasis on techniques, perspective and axonometric drawing, and design. Upon completion the student should be able to apply good design and various illustrative techniques to enhance renderings. PREREQUISITE: ART 256.	10	12
2019-2020	900644	PHOTOGRAPHIC AND MEDIA PROBLEMS	This course deals with special problems in the student's area of interest. Emphasis is placed on design, technique and results. Upon completion the student will be able to produce professional quality photographs in one particular area of photography. PREREQUISITE: As required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900645	MUSEUM PRACTICE I	This course provides an introduction to a variety of museum works, with practical training supervised by museum staff. Topics may include promotion, shipping, labeling and hanging of a museum exhibit as well as the study of the work itself. Upon completion, students should understand the activities surrounding a museum exhibit and be able to explain how the experience advanced their knowledge of communicating through art. PREREQUISITE: As required by college.	10	12
2019-2020	900646	MUSEUM PRACTICE II	This course provides further study of museum artworks, with practical training supervised by museum staff. Topics may include promotion, shipping, labeling and hanging of a museum exhibit as well as the study of the work itself. Upon completion, students should understand the activities surrounding a museum exhibit and be able to explain how the experience advanced their knowledge of communicating through art. PREREQUISITE: ART 263 and/or as required by college.	10	12
2019-2020	900647	STUDIO PHOTOGRAPHY I	This course stresses image-making problems requiring studio or other controlled environment solutions. Topics include lights, props, and related equipment and techniques. Upon completion, the student will produce quality photographs using studio equipment and processes. PREREQUISITE: ART 174.	10	12
2019-2020	900648	STUDIO PHOTOGRAPHY II	This course stresses advanced image-making problems requiring studio or other controlled environment solutions. Topics include lights, props, and related equipment and techniques. Upon completion, the student will produce quality photographs using studio equipment and processes. PREREQUISITE: ART 274.	10	12
2019-2020	900649	ADVANCED DIGITAL PHOTOGRAPHY	This course explores various uses of digital photography. Subjects may include studio, portrait, landscape and other areas of photography. Upon completion, the student should be able to apply the techniques necessary to produce professional photographs of a variety of subjects. PREREQUISITE: ART 175 and/or as required by college.	10	12
2019-2020	900650	FILMMAKING II	This course is a continuation of the study of film production. Emphasis is on various aspects of filmmaking which may include design, special effects, digital and linear production techniques, and machine control. Upon completion, students should have hands-on experience and an understanding of professional filmmaking. PREREQUISITE: ART 176 and/or as required by college.	10	12
2019-2020	900651	FILMMAKING III	This course is a continuation of the study of film production. Emphasis is on various aspects of filmmaking which may include design, special effects, digital and linear production techniques, and machine control. Upon completion, students should have hands-on experience and an understanding of professional filmmaking. PREREQUISITE: ART 276 and/or as required by college.	10	12
2019-2020	900652	GRAPHIC ANIMATION I	This course is designed to teach the art of animation as a continuation of the study of visual communication. Topics include story development, drawing, layout story boarding, directing, motion control, sound synchronization lighting and camera operation. Upon completion, students should understand the creative process as it relates to animation and demonstrate this knowledge through various projects. PREREQUISITE: ART 253, 254, 255 and/or as required by college.	10	12
2019-2020	900653	GRAPHIC ANIMATION II	This course advances the students' technical and aesthetic knowledge of animation beyond the introductory level. Topics include story development, drawing, layout, story boarding, directing, motion control, sound synchronizing, lighting and camera operation. Upon completion, students should advance his or her understanding of the creative process as it relates to animation and demonstrate this knowledge through various projects. PREREQUISITE: ART 253, 254, 255, 283 and/or as required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900654	ART FOR TEACHERS	This course provides the opportunity for perspective teachers to experience and analyze art in order to effectively incorporate the art curriculum into the classroom. Emphasis is placed on the exploration of teaching skills using art knowledge and the aesthetic experience. Upon completion, students should be able to demonstrate the ability to communicate art knowledge and the validity of the art curriculum. PREREQUISITE: As required by college.	10	12
2019-2020	900655	ART PORTFOLIO	This course is designed to help the art major in the preparation and presentation of an art portfolio. Emphasis is placed on representing the student's potential as an artist in order to interest employers, clients or schools. Upon completion, students should be able to make a professional presentation of their design and communication skills. PREREQUISITE: As required by college.	10	12
2019-2020	900800	AMERICAN SIGN LANGUAGE I	This course is an introduction to American Sign Language. Students will learn the basis of nonverbal communication skills as a foundation for learning American Sign Language. Upon course completion, students should be able to introduce themselves, exchange personal information, talk about one's family activities, give directions, and describe others utilizing sign language. PREREQUISITE: As required by program.	10	12
2019-2020	900801	AMERICAN SIGN LANGUAGE II	This course is part two of a five part sequence and allows students the opportunity to practice sign language skills. In addition, the course provides students with instruction on how to make requests, talk about family, occupation, and daily routines in sign language. Upon course completion, students should be able to conduct a basic conversation utilizing sign language. PREREQUISITE: ASL 101 and/or as required by program.	10	12
2019-2020	900802	AMERICAN SIGN LANGUAGE III	This course is part three of a five part sequence which allows students to continue improving their sign language skills. This course provides students with instruction on locating items in the household, making suggestions and requests. Upon completion, students should be able to conduct an intermediate conversation utilizing sign language. PREREQUISITE: ASL 102 and/or as required by program.	10	12
2019-2020	900803	AMERICAN SIGN LANGUAGE IV	This course is part four of a five part sequence which allows students the opportunity to practice their sign language skills. This course provides students with instruction on how to exchange personal information in ASL. Upon completion, students should be able to describe and identify items, use non-manual markers, and topic-comment structure. PREREQUISITE: ASL 103 and/or as required by program.	10	12
2019-2020	900804	AMERICAN SIGN LANGUAGE V	This course is part five of a five part sequence which allow students the opportunity to increase their ability to accurately produce and comprehend ASL through narrative stories given by deaf individuals so that students may gain insight into the culture and life experiences of persons who are deaf/hard of hearing. Upon completion, students should be able to comprehend basic narrative stories presented in American Sign Language. PREREQUISITE: ASL 104 and/or as required by program.	10	12
2019-2020	900805	CAREERS USING AMERICAN SIGN LANGUAGE	This course will provide students with an awareness of various career options related to the field of sign language interpretation and deafness. Upon completion, students will be aware of various career options related to the field. PREREQUISITE: ASL 103 and/or as required by program.	10	12
2019-2020	900806	DEAF CULTURE	This course will acquaint students with a basic cultural concept and understanding of the American deaf community and its language. Students will explore the similarities and differences between hearing and deaf communities and their culture. Upon completion, students will have an understanding of the American deaf community. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

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2019-2020	900807	INITIAL OBSERVATIONAL EXPERIENCES IN ASL	This course will provide students with exposure to various situations where American Sign Language is utilized. Students will observe American Sign Language usage at various functions. Upon completion, students will have an understanding of how the language is used by members of the deaf community. PREREQUISITE: ASL 105 and/or as required by program.	10	12
2019-2020	900808	LINGUISTIC STRUCTURE OF AMERICAN SIGN LANGUAGE	This course will acquaint students with an analysis of the major structural features of American Sign Language. This includes: phonological, morphological, syntactic, semantic and discourse. Upon completion, students will be familiar with the major grammatical features of American Sign Language. PREREQUISITE: ASL 104 and/or as required by program.	10	12
2019-2020	901000	OBSERVATIONAL ASTRONOMY	This is a laboratory course which introduces the student to the techniques of astronomical observation. Evening laboratory work will be required. PREREQUISITE: As required by program.	10	12
2019-2020	901001	INTRODUCTION TO ASTRONOMY	This course covers the history of astronomy and the development of astronomical thought leading to the birth of modern astronomy and its most recent development. Emphasis is placed on the coverage of astronomical instruments and measuring technologies, the solar system, the Milky Way galaxy, important extra galactic objects and cosmology. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901200	PRINCIPLES OF BANKING	This course is an introduction to the broad area of banking. Topics include the evolution of banking, Federal Reserve System, documents and forms used, rudimentary laws and regulations, as well as a study of the specialized services offered. Upon completion of this course, the student will be able to perform basic banking functions. PREREQUISITE: As required by program.	10	12
2019-2020	901201	LAW AND BANKING: PRINCIPLES	This course is an introduction to banking law and legal issues, with special emphasis on the Uniform Commercial Code. Topics include the role of regulators, torts, contracts, real estate, bankruptcy, and the legal implications of consumer lending. Upon completion of the course, the student will be able to work with basic banking documents. PREREQUISITE: As required by program.	10	12
2019-2020	901202	LAW AND BANKING: APPLICATIONS	This course is an introduction to laws pertaining to secured transactions, letters of credit, the bank collection process, check losses and the legal issues related to processing checks. Topics include negotiable instruments, authorized signatures, collection routes, forgery and fraud, letters of credit and secured transactions. Upon completion of this course, the student will be able to work with more complex banking documents. PREREQUISITE: As required by program.	10	12
2019-2020	901203	PERSONNEL AND THE LAW	This course is an introduction to some basic laws essential to the management of bank personnel. Topics include the Civil Rights Act, EEOC, ERISA, COBRA, and OSHA. Upon completion of this course the student will be able to understand what rights he or she has in the workplace. PREREQUISITE: As required by program.	10	12
2019-2020	901204	OFFICER CALLING SKILLS	This course is designed to develop skills to effectively call on business loan prospects. Topics include preparing to call on a prospect, creating call goals, obtaining appointments, determining client needs, creating strategies to meet client needs, and closing the sale of bank services. Upon completion of this course, the student will use good calling skills to generate and maintain good relationships with the bank's commercial clients. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901205	MARKETING FOR BANKERS	This course is an introduction to basic marketing principals and how a bank develops a successful marketing plan. Topics include consumer behavior, market research, the planning process, public relations, advertising, and sales promotion. Upon completion of this course, the student will have the skills to bring in new business. PREREQUISITE: As required by program.	10	12
2019-2020	901206	CUSTOMER SERVICE FOR BANK PERSONNEL	This course is an introduction to the communication skills needed to benefit both the customer and the bank. Topics include effectively presenting oneself, listening, communicating, and customer psychology. Upon completion of this course the student will have the necessary skills needed to obtain and retain customers. PREREQUISITE: As required by program.	10	12
2019-2020	901207	TELLER TRAINING: BASIC	This course focuses on skills for new tellers. Topics include basic banking industry functions, the teller's responsibility in banking, procedures for performing daily transactions, features and benefits of basic banking products, and quality customer service. Upon completion of this course, the student will have the skills to effectively perform as a bank teller. PREREQUISITE: As required by program.	10	12
2019-2020	901208	TELLER TRAINING: ADVANCED	This course emphasizes skills for senior tellers. Topics include enhanced teller duties, compliance with relevant laws and regulations, staff supervision and training in security measures, customer expectations, and compliance with equal employment laws and regulations. Upon completion of this course, the student will have the skills a senior teller needs to assume broader responsibilities within the bank. PREREQUISITE: As required by program.	10	12
2019-2020	901209	INTRODUCTION TO SECURITIES MARKETS	This course is designed to provide an understanding of the financial goals of typical investors. Topics include investing in securities, interpreting economic news, and selecting among available products. Upon completion of this course, the student will have the skills to select investments appropriate to an investor's goals, circumstances, and tolerance for risk. PREREQUISITE: As required by program.	10	12
2019-2020	901210	ACCOUNTING BASICS	This course is an introduction to general financial accounting. Topics include T-accounts, general journal, worksheet, financial statements, adjusting and closing entries, payroll. merchandise accounting, and accounts receivable. Upon completion of this course, the student will have the skills needed to perform basic accounting techniques. PREREQUISITE: As required by program.	10	12
2019-2020	901211	ACCOUNTING	This course emphasizes current practices of accounting procedures and includes coverage of the latest principles set forth by the Financial Accounting Standards Board. PREREQUISITE: As required by program.	10	12
2019-2020	901212	FUNDAMENTALS OF ANALYZING FINANCIAL STATEMENTS	This course is an introduction to basic financial statement analysis techniques. Topics include income statement, balance sheet, funds flow, ratios, working capital, projections, seasonalization, and monitoring problem loans. Upon completion of this course, the student will have the rudimentary skills to work with financial statements as they relate to the job description. PREREQUISITE: As required by program.	10	12
2019-2020	901213	COMMERCIAL LENDING	This course is an introduction to the commercial lending process and how it contributes to bank profitability. Topics include a history of commercial lending, skills needed to become a successful loan officer, steps in the commercial loan process, and trends impacting the commercial lending process. Upon completion of this course, the student will have the skills to perform the commercial lending function. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901214	BRANCH BANKING	This course is an introduction to the areas of branch banking. Topics include the credit function of the branch, personnel, market research, product development, training, and telemarketing. Upon completion of this course, the student will have the necessary skills to be a branch manager. PREREQUISITE: As required by program.	10	12
2019-2020	901215	LOAN COLLECTOR'S TRAINING	This course is an introduction to the bank's collection program. Topics include the nature of the collection process, telephone collection, collection letters, and how to handle delinquencies. Upon completion of this course the student will be able to handle loan collections. PREREQUISITE: As required by program.	10	12
2019-2020	901216	CONSUMER LENDING	This course provides an introduction to the consumer credit function. Topics include a history of the consumer credit function, products and services, the consumer lending process, and credit administration. Upon completion of this course, the student will be able to work in the areas of consumer lending. PREREQUISITE: As required by program.	10	12
2019-2020	901217	CONSUMER BANKRUPTCY	This course is an introduction to the area of consumer bankruptcy from a non-technical perspective. Topics include consumer counseling, bankruptcy code, proceedings, and minimizing bankruptcy risks. Upon completion of this course, the student will have the skill needed to work in the bankruptcy area. PREREQUISITE: As required by program.	10	12
2019-2020	901218	SUPERVISORY TRAINING	This course provides information needed to ease the transition from employee to supervisor. Topics include self-assessment, motivation, communication, problem solving and stress. Upon completion of this course, the student will have the skills necessary to function as a supervisor. PREREQUISITE: As required by program.	10	12
2019-2020	901219	SUPERVISION	This course is designed to help new or potential supervisors become better managers. Topics include leadership, delegation, motivation, communication, the planning function, staffing, directing, and controlling. Upon completion of this course, the student will have the required skills to be a better manager. PREREQUISITE: As required by program.	10	12
2019-2020	901220	TRUST BUSINESS	This course is an introduction to the trust department in a commercial bank. Topics include a history of the trust department, services provided, and trends impacting the area. Upon completion of this course, the student will be able to work in the trust area. PREREQUISITE: As required by program.	10	12
2019-2020	901221	GLOBAL BANKING	This course provides an introduction to international banking. Topics include balance of payments, risk assessment, functions of an international banking department, foreign exchange trading, and the dollar-foreign exchange rate. Upon completion of this course, the student will be qualified to work in the international banking department. PREREQUISITE: As required by program.	10	12
2019-2020	901222	MONEY AND BANKING	This course provides an introduction to the money supply and the role banks play in relation to money creation. Topics include financial intermediaries, the Federal Reserve, monetary policy, fiscal policy, and international banking. Upon completion of this course, the student will have the necessary skills to work in a variety of different departments within the bank. PREREQUISITE: As required by program.	10	12
2019-2020	901223	ESSENTIALS OF BANKING	This course provides an orientation to the essential principles, concepts, and operations of banking. Topics include sweep accounts, branches, Federal Reserve System, importance of banks in the economy, laws and regulations, and financial statements. Upon completion of this course, the student will have the rudimentary skills to perform basic banking functions. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901224	UNDERSTANDING AND SELLING BANK PRODUCTS	This course is an introduction to selling the various products offered by a bank. Topics include needs and wants, the six basic human relations skills, attitude, listening, hearing, family life cycle, answering objections, how to close a sale, consumer credit reviews, and international banking. Upon completion of this course, the student will possess the necessary skills to effectively sell bank products. PREREQUISITE: As required by program.	10	12
2019-2020	901225	VERBAL COMMUNICATION	This course is an introduction to good verbal communication. Topics include the communication process, enunciation, effective listening, meetings, and being able to present oneself with an impact. Upon completion of this course, the student will have the necessary skills to be an excellent verbal communicator. PREREQUISITE: As required by program.	10	12
2019-2020	901226	WRITTEN COMMUNICATION FOR BANKERS	This course is an introduction to the written communication principles necessary for success in a competitive market. Topics include objective(s), personality, grammar, writing for the reader, persuasion, and form. Upon completion of this course, the student will possess the necessary skills to be an excellent writer. PREREQUISITE: As required by program.	10	12
2019-2020	901227	DEPOSIT OPERATIONS	This course is an introduction to the U.S. payments system, banking law and regulation, and current industry practices. Topics include the payment mechanism, regulations affecting deposits, the paper payments system, the electronic system, deposit creation, and the bank services which interface with deposit operations. Upon completion of this course, the student will have the necessary knowledge to work in this area. PREREQUISITE: As required by program.	10	12
2019-2020	901228	SECURITIES PROCESSING	This course is an introduction to the securities business. Topics include types of securities offered and traded, where they are traded, the impact of automation, laws and regulations, clearing and settlement mechanisms, trust accounts, and the impact of computer technology. Upon completion of this course, the student will be qualified to work with securities in a bank setting. PREREQUISITE: As required by program.	10	12
2019-2020	901229	CORPORATE SECURITIES SERVICES	This course is an introduction to corporate securities processing and administration. Topics include types of securities handled, marketplace, participants, agency, judiciary responsibilities, and automation. Upon completion of this course, the student will have the skills to work in this area. PREREQUISITE: As required by program.	10	12
2019-2020	901230	TRUST OPERATIONS	This course is an introduction to the trust function. Topics include securities, the trust function importance, agency, laws, and how the trust function is vital to a bank. Upon completion of this course, the student will have the necessary background to work in the trust department. PREREQUISITE: As required by program.	10	12
2019-2020	901231	LOAN AND DISCOUNT	This course is an introduction to promissary notes and secured transactions. Topics include promissary notes, function of guaranty and general collateral agreement, and secured notes. Upon completion of this course, the student will possess the skills necessary to work with these products. PREREQUISITE: As required by program.	10	12
2019-2020	901232	COMMERCIAL LOAN DOCUMENTATION	This course provides the tools necessary to put together a loan documentation manual. Topics include establishing proof of identity and authority, contrasting loan versus credit agreements, security and closing. Upon completion of this course, the student will have the ability to develop a loan documentation manual. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901233	ANALYZING FINANCIAL STATEMENTS	This course is an elaboration of BFN 130. It provides an introduction of how financial data are generated and their limitations. Topics include techniques for analyzing the flow of business's funds, methods for selecting and interpreting financial ratios, and analytical tools for predicting and testing assumptions about a firm's future performance. Upon completion of this course the student will have the necessary skill to work with financial statements. PREREQUISITE: As required by program.	10	12
2019-2020	901234	BANK CARDS	This course provides an introduction and history of bank cards. Topics include history, marketing, credit, customer service, production functions, collections, fraud, and regulatory issues. Upon completion of this course, the student will be able to effectively work with this product. PREREQUISITE: As required by program.	10	12
2019-2020	901235	TRUST INVESTMENTS	This course provides an introduction to the theory and practice of trust department investments services. Topics include legal and regulatory issues, assessing securities markets, economic forecasting, bonds, stocks, and portfolio management. Upon completion of this course, the student will have the skills needed to work in this area. PREREQUISITE: As required by program.	10	12
2019-2020	901236	BANK SECURITY	This course is designed to develop good security habits. Topics include dealing with security threats, protecting personal safety, and minimizing loss to the bank. Upon completion of this course, the student will practice appropriate and effective security procedures. PREREQUISITE: As required by program.	10	12
2019-2020	901237	ECONOMICS FOR BANKERS	This course is an introduction to the fundamental principles of economics as they apply to banking. Topics include economic indicators, economic theory, economic systems, and inflation. Upon completion of this course, the student will have the skills to conduct a cost/benefit analysis and spot influential economic trends. PREREQUISITE: As required by program.	10	12
2019-2020	901238	ALTERNATIVE DELIVERY SYSTEMS	This course provides an introduction to alternative delivery systems for banking services. Topics include advantages and disadvantages of alternative delivery systems and issues affecting profitability and marketing. Upon completion of this course, the student will understand how technology is changing the way banks service their customers. PREREQUISITE: As required by program.	10	12
2019-2020	901239	BANK SECRECY ACT	This course is an introduction to the Bank Secrecy Act. Topics include history of the act, the \$3,000 rule, customer policy, exemptions form large currency reporting, record keeping, and BSA compliance. Upon completion of this course, the student will have valuable skills needed by the bank. PREREQUISITE: As required by program.	10	12
2019-2020	901240	REAL ESTATE FINANCE	This course provides an introductory background to the varied real estate mortgage credit operations of commercial banks. Topics include legal, the residential lending process, mortgage market, fund flows, the role of the government in mortgage financing, and the important aspects of income-producing real estate. Upon completion of this course, the student will have the necessary skill to work in this area. PREREQUISITE: As required by program.	10	12
2019-2020	901241	REAL ESTATE LENDING	This course focuses on skills needed to comply with laws and regulations associated with the residential lending process. Topics include compliance with the Equal Credit Opportunity Act, the Fair Housing Act, the Truth in Lending Act, the Flood Disaster Protection Act and related laws and regulations in conducting loan interviews, providing disclosures, and evaluating loan applications. Upon completion of this course, the student will have the skills to comply with residential lending laws and regulations. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901242	REAL ESTATE APPRAISAL CERTIFICATION I	This is an introductory course concerned with estimating the value of real property (land and/or building). Topics include the role of the site and physical factors on valuation, methods used to value real property, presenting and evaluating the appraisal report, and the mathematics used in appraising real property. Upon successful completion of this course, the student will have the skills necessary to work in this function. PREREQUISITE: As required by program.	10	12
2019-2020	901243	UNDERSTANDING FINANCIAL PLANNING	This course emphasizes skills needed to help bank customers plan for financial growth. Topics include how to analyze a customer's financial needs, how to ask questions that elicit information about a customer's financial situation, and how to match products and services to a customer's financial situation at various life stages. Upon completion of the course, students will be able to help bank customers plan for financial growth. PREREQUISITE: As required by program.	10	12
2019-2020	901244	MORTGAGE LOAN DOCUMENTATION	This is an introduction to the basics of loan processing and underwriting tasks. Topics include types of loan programs, the interview, taking and processing the application, underwriting, and closing and servicing the mortgage. Upon completion of this course, the student will possess the necessary skills to work in this area. PREREQUISITE: As required by program.	10	12
2019-2020	901400	INTRODUCTION TO BIOLOGY I	Introduction to Biology I is the first of a two-course sequence designed for non-science majors. It covers historical studies illustrating the scientific method, cellular structure, bioenergetics, cell reproduction, Mendelian and molecular genetics, and a survey of human organ systems. A 120 minute laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901401	INTRODUCTION TO BIOLOGY II	Introduction to Biology II is the second of a two-course sequence for non-science majors. It covers evolutionary principles and relationships, environmental and ecological topics, classification, and a survey of biodiversity. A 120 minute laboratory is required. PREREQUISITE: BIO 101.	10	12
2019-2020	901402	PRINCIPLES OF BIOLOGY I	This is an introductory course for science and non-science majors. It covers physical, chemical, and biological principles common to all organisms. These principles are explained through a study of cell structure and function, cellular reproduction, basic biochemistry, cell energetics, the process of photosynthesis, and Mendelian and molecular genetics. Also included are the scientific method, basic principles of evolution, and an overview of the diversity of life with emphasis on viruses, prokaryotes, and protist. A 120 minute laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901403	PRINCIPLES OF BIOLOGY II	This course is an introduction to the basic ecological and evolutionary relationships of plants and animals and a survey of plant and animal diversity including classification, morphology, physiology, and reproduction. A 180 minute laboratory is required. CORE PREREQUISITE: BIO 103.	10	12
2019-2020	901404	INTRODUCTION TO BIOTECHNOLOGY	This course is an introduction to biotechnology, including career exploration, historical development and current applications in the areas of medicine, forensics, agriculture, and the environment. Students will learn laboratory safety and documentation while acquiring skills in the maintenance and calibration of basic lab equipment, calculation, and preparation of lab solutions and media. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901405	CELL STRUCTURE	The overall objective of this course is to provide a basic understanding to the growth to the field of biotechnology. Instruction will focus on growing techniques and long-term maintenance of various cell cultures, including both attached and suspension cell lines. Microbial life cycle and cell culture will be emphasized, including discussion of pathogenic aspects and utilization of microbial transformation and protein production for use in biotechnological processes. PREREQUISITE: As required by college	10	12
2019-2020	901406	BIOLOGY OF HUMAN CONCERN	This course is designed to give the non-science major an understanding of humans as biological organisms and as members of ecosystems. Emphasis is placed on biological implications of man's activities. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901407	SURVEY OF HUMAN BIOLOGY	This course is for the non-science majors and covers an overview of human body functions with an emphasis on major organ systems. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901408	HUMAN REPRODUCTION & INHERITANCE	Human Reproduction and Inheritance is an introductory genetics course with primary emphasis on human inheritance, reproduction, venereal diseases, birth control, and teratology. No laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901409	HISTORY OF BIOLOGY	This course, for the non-science major, is a survey of the events and ideas which contributed to the development of modern biology. No laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901410	MEDICAL TERMINOLOGY	This course is a survey of words, terms, and descriptions commonly used in medical arts. Emphasis is placed on spelling, pronunciation, and meanings of prefixes, suffixes, and roots. No laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901411	MEDICAL PARASITOLOGY FOR MLT	This course covers introductory human parasitology with emphasis on theory and practical techniques for isolation and identification of human parasites. Life cycles, pathology, general treatment, and prognoses are covered. Laboratory is required. PREREQUISITE: BIO 103.	10	12
2019-2020	901412	HUMAN ANATOMY FOR DENTAL ASSISTING	Human Anatomy for Dental Assisting covers the basic structure and function of human organ systems with primary emphasis on selected structures of the head and neck. Embryological, gross anatomical, and histological correlations illustrating dental health and oral pathology are emphasized. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901413	MICROBIOLOGY FOR DENTAL ASSISTING	Microbiology, Pathology, and Pharmacology for Dental Assisting covers morphology, cultivation, transmission, and control of microbial pathogens. Pathology of the head, neck, and oral cavity and related therapeutic treatments are emphasized. Laboratory is required. PREREQUISITE: BIO 140.	10	12
2019-2020	901414	HUMAN BIOLOGY	This course serves as an introduction to the structure, function, and pathology of the human body. The emphasis is on the basic anatomy of all systems, basic physiology, and the various terms related to pathology. No laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901415	HUMAN ANATOMY & PHYSIOLOGY I	Human Anatomy and Physiology I covers the structure and function of the human body. Included is an orientation of the human body, basic principles of chemistry, a study of cells and tissues, metabolism, joints, the integumentary, skeletal, muscular, and nervous systems, and the senses. Dissection, histological studies, and physiology are featured in the laboratory experience. A 120 minute laboratory is required. PREREQUISITE: BIO 103.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901416	HUMAN ANATOMY & PHYSIOLOGY II	Human Anatomy and Physiology II covers the structure and function of the human body. Included is a study of basic nutrition, basic principles of water, electrolyte, and acid-base balance, the endocrine, respiratory, digestive, excretory, cardiovascular, lymphatic, and reproductive systems. Dissection, histological studies, and physiology are featured in the laboratory experience. A 120 minute laboratory is required. PREREQUISITE: BIO 103 and BIO 201.	10	12
2019-2020	901417	TECHNIQUES IN MOLECULAR BIOLOGY	This course is an introduction to the major topics in biochemistry and molecular biology. Topics include the major classes of biological molecules, an overview of the major metabolic pathways, advancing technologies, and bioethical issues. The laboratory will provide experience in the isolation and manipulation of DNA and RNA, DNA and protein electrophoresis, and enzymatic and immunological assays. PREREQUISITE: As required by college	10	12
2019-2020	901418	HUMAN ANATOMY	This course covers the basic structure and function of the human body. Emphasis is placed on the structure of the organ systems, cells, and tissues. Mammalian dissection and histological studies are featured in the required laboratory. PREREQUISITE: BIO 103.	10	12
2019-2020	901419	HUMAN PHYSIOLOGY	This course covers the functions of the organ systems, cells, and tissues. Also included is a survey of cellular energetics, the major metabolic pathways, digestion, and fluid and electrolyte balance. Laboratory is required. PREREQUISITE: BIO 103 and BIO 206.	10	12
2019-2020	901420	HUMAN ANATOMY & PHYSIOLOGY FOR HEALTH OCCUPATIONS I	This course is the first in a two-course sequence which covers the basic structure and function of the human body. Tissues and the following organ systems are covered: integumentary, skeletal, muscular, nervous, sensory, endocrine, circulatory, digestive, respiratory, excretory, and reproductive. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of human anatomy and physiology and their interrelationships. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	901421	HUMAN ANATOMY & PHYSIOLOGY FOR HEALTH OCCUPATIONS II	This course is the second in a two-course sequence which provides a comprehensive study of the structure and function of the human body. Tissues and the following organ systems are covered: integumentary, skeletal, muscular, nervous, sensory, endocrine, circulatory, digestive, respiratory, excretory, and reproductive. Upon completion, students should be able to demonstrate an in-depth understanding of human anatomy and physiology principles and their interrelationships. Laboratory is required. BIO 103 or BIO 212 will satisfy the pre-requisite requirement for BIO 220, General Microbiology. PREREQUISITE: BIO 211.	10	12
2019-2020	901422	GENERAL MICROBIOLOGY	This course includes historical perspectives, cell structure and function, microbial genetics, infectious diseases, immunology, distribution, physiology, culture, identification, classification, and disease control of microorganisms. The laboratory experience includes micro-techniques, distribution, culture, identification, and control. Two 120 minute laboratories are required. PREREQUISITE: BIO 103 (RECOMMENDED: 4 Semester Hours of Chemistry).	10	12
2019-2020	901423	MICROBIOLOGY FOR CAREER PROGRAMS	Microbiology for Career Programs is an introduction to microbial life with emphasis on identification and life cycles of bacteria, viruses, and other human parasites associated with disease. Medical aspects are stressed. This course is designed for two-year career programs. Laboratory is required. PREREQUISITE: BIO 103 and/or as required by college.	10	12
2019-2020	901424	HUMAN PATHOPHYSIOLOGY	Human Pathophysiology covers the nature, etiology, prognosis, prevention, and therapeutics of human disease. A 120 minute laboratory is required. PREREQUISITE: BIO 201, BIO 202, AND BIO 220.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901425	FIELD BIOLOGY	This course covers basic principles of taxonomy, classification, and selected ecological concepts. Animal and plant diversity is emphasized through collection, identification, and museum preparation of local flora and fauna. Laboratory is required. PREREQUISITE: BIO 103.	10	12
2019-2020	901426	BIOTECHNOLOGY INTERNSHIP	The internship will provide advanced students the opportunity to develop job and career-related skills while in a work setting. Upon successful completion of this course, students will be able to apply classroom knowledge to an actual work situation. The work will be developed cooperatively with academic, industrial, and private institutional biotechnology laboratories. PREREQUISITE: As required by program.	10	12
2019-2020	901427	HUMAN GROSS ANATOMY/ PATHOPHYSIOLOGY	This course covers a system by system approach to discuss the manifestations, terminology, diagnosis, and mechanisms of disease. Human cadaver dissection is used to gain an in-depth knowledge of human anatomy and physiology. A 180 minute laboratory is required. PREREQUISITE: BIO 201 & Permission of Instructor.	10	12
2019-2020	901428	FIELD STUDIES IN PLANT ECOLOGY I	These courses are an introduction to plants in selected communities. Identification, sampling, and collecting techniques are emphasized. These courses consist of laboratory and field exercises which expose students to unique ecosystems like the Smoky Mountains in Great Smoky Mountains National Park and the Chihuahuan Desert of Big Bend National Park in western Texas. PREREQUISITE: BIO 103 and/or as required by program.	10	12
2019-2020	901429	FIELD STUDIES IN PLANT ECOLOGY II	These courses are an introduction to plants in selected communities. Identification, sampling, and collecting techniques are emphasized. These courses consist of laboratory and field exercises which expose students to unique ecosystems like the Smoky Mountains in Great Smoky Mountains National Park and the Chihuahuan Desert of Big Bend National Park in western Texas. PREREQUISITE: BIO 103 and/or as required by program.	10	12
2019-2020	901430	FIELD STUDIES IN MARINE BIOLOGY I	These laboratory intensive courses introduce salt water and marsh environments with emphasis on vertebrates. Pertinent ecological concepts are introduced using sampling, collecting, preserving, labeling, and identification techniques. Students obtain first hand field experience in marine ecosystems on the Gulf Coast, Marine Biology at the Dauphin Island Seal Lab, the Florida State University Marine Laboratory, and Dog Island Sound/St. George Island, and sampling excursions in the Gulf of Mexico aboard research vessels. PREREQUISITE: BIO 103 and/or as required by program.	10	12
2019-2020	901431	FIELD STUDIES IN MARINE BIOLOGY II	These laboratory intensive courses introduce salt water and marsh environments with emphasis on vertebrates. Pertinent ecological concepts are introduced using sampling, collecting, preserving, labeling, and identification techniques. Students obtain first hand field experience in marine ecosystems on the Gulf Coast, Marine Biology at the Dauphin Island Seal Lab, the Florida State University Marine Laboratory, and Dog Island Sound/St. George Island, and sampling excursions in the Gulf of Mexico aboard research vessels. PREREQUISITE: BIO 103 and/or as required by program.	10	12
2019-2020	901600	CAREER PLANNING AND PERSONAL DEVELOPMENT	This courses is designed to provide an awareness of and preparation for the world of work. It provides direction in career planning by evaluating individual interest, values, skills, and personality needs to set career goals and establish strategies to achieve those goals. PREREQUISITE: As required by program.	10	12
2019-2020	901601	INTERMEDIATE STUDY SKILLS	This course is designed to introduce students to a variety of effective study techniques. The course includes an assessment of study strengths and weaknesses, and specific techniques for an overall system of successful study. PREREQUISITE: Eligibility for ENG 101 and MTH 091.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901602	STUDY SKILLS	This course is intended for those who placed into credit-level course work but who are not maintaining satisfactory academic progress toward meeting program goals. Topics include study skills, note taking, learning styles and strategies, test taking, goal setting, and self-assessment skills. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals. PREREQUISITE: As required by program.	10	12
2019-2020	901603	SUCCESS AND STUDY SKILLS	This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan. PREREQUISITE: As required by program.	10	12
2019-2020	901604	COLLEGE STUDY SKILLS	This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan. PREREQUISITE: As required by program.	10	12
2019-2020	901605	CAREER ASSESSMENT	This Course provides the information and strategies necessary to develop clear personal, academic, and professional goals. Topics include personality styles, goal setting, various college curricula, career choices, and campus leadership development. Upon completion, student should be able to clearly state their personal, academic, and professional goals and have a feasible plan of action to achieve those goals. PREREQUISITE: As required by program.	10	12
2019-2020	901606	MANAGING A TEAM	This course focuses on the process of the individual with an awareness of the reality in the collective teamwork approach for the workplace emphasizing process-orientation. Topics include how teams work, team effectiveness, team-building techniques, positive thinking, and leadership principles. Upon completion, students should be able to demonstrate an understanding of how teamwork strengthens ownership, involvement, and responsibility in the workplace. PREREQUISITE: As required by program.	10	12
2019-2020	901607	PROFESSIONAL TRANSITION	This course provides preparation for meeting the demands of employment or education beyond the community college experience. Emphasis is placed on strategic planning, gathering information on workplaces or colleges, and developing human interaction skills for professional, academic, and/or community life. Upon completion, students should be able to successfully make the transition to appropriate workplaces or senior institutions. PREREQUISITE: As required by program.	10	12
2019-2020	901800	COMPUTER INFORMATION SYSTEMS IN A CALL CENTER	This course is a "hands-on" introduction to the computer systems used in a typical call center. Topics include computer fundamentals, basic hardware, and specific software applications common to the call center industry. Working within a customer information database and basic keyboarding will also be a component of this course. PREREQUISITE: Instructor approval and minimum WorkKeys levels.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901801	CALL CENTER OPERATIONS	This course is an introduction to the call center environment. Topics include call center organizational structures, terminology, how calls are screened and routed, basic telephone functions, and the call flow process. Also included is an overview of customer service and the competitive advantage in the marketplace and performance measures used in typical call centers. PREREQUISITE: Instructor approval and minimum WorkKeys levels.	10	12
2019-2020	901802	CUSTOMER SERVICE COMMUNICATIONS	This course provides a basic study of the principles of communicating with customers. Topics include communication barriers, building rapport, creating positive impressions, communicating with various customer types, listening skills, telephone etiquette, making and meeting commitments, handling difficult customers and problem solving. Also included is conversational Spanish in a call center. PREREQUISITE: Instructor approval and minimum WorkKeys levels.	10	12
2019-2020	901803	SALES AND MARKETING IN A CALL CENTER	This course is an introduction to the fundamentals of needs-based selling. Topics include building customer relationships, questioning for customer needs, presenting product/service solutions, closing the sale and overcoming objections. PREREQUISITE: Instructor approval and minimum WorkKeys levels.	10	12
2019-2020	901804	PROFESSIONAL DEVELOPMENT	This course equips the student with the skills to effectively present themselves for call center interviews. Topics include resume writing, presentation skills and interviewing techniques. PREREQUISITE: Instructor approval and minimum WorkKeys levels.	10	12
2019-2020	901805	COACHING AND DEVELOPMENT	This course is an introduction to the fundamentals of coaching and development in a call center environment. Topics include developing performance standards, establishing coaching partnerships, giving and receiving feedback, identifying performance problems and creating customized employee development plans for performance improvement. PREREQUISITE: Instructor approval and minimum WorkKeys levels.	10	12
2019-2020	901806	INTRODUCTION TO ACCOUNTING	This course is an introduction to accounting and financial reporting concepts and the use of accounting information for financial and managerial decisions. Information is presented from a financial statement user approach. PREREQUISITE: As required by program.	10	12
2019-2020	901807	PRINCIPLES OF ACCOUNTING I	This course is designed to provide a basic theory of accounting principles and practices used by service and merchandising enterprises. Emphasis is placed on financial accounting, including the accounting cycle, and financial statement preparation analysis. PREREQUISITE: As required by program.	10	12
2019-2020	901808	PRINCIPLES OF ACCOUNTING II	This course is a continuation of BUS 241. In addition to a study of financial accounting, this course also places emphasis upon managerial accounting, with coverage of corporations, statement analysis introductory cost accounting, and use of information for planning, control, and decision making. PREREQUISITE: BUS 241.	10	12
2019-2020	901809	MANAGERIAL ACCOUNTING	This course is designed to familiarize the student with management concepts and techniques of industrial accounting procedures. Emphasis is placed on cost behavior, contribution approach to decision-making, budgeting, overhead analysis, cost-volume-profit analysis, and cost accounting systems. PREREQUISITE: As required by program.	10	12
2019-2020	901810	BUSINESS LAW I	This course provides an overview of legal principles affecting businesses. Topics include contracts, agency and employment, negotiable instruments, bailments, and sale of goods. PREREQUISITE: As required by program.	10	12
2019-2020	901811	BUSINESS LAW II	This course is a continuation of BUS 261. Topics include legal principles related to partnerships, corporations, real property and leases, insurance, security devices, bankruptcy, trust and estates; government regulations of business and labor; civil and criminal liability; and business security. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901812	THE LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS	This course provides an overview of the legal and social environment for business operations with emphasis on contemporary issues and their subsequent impact on business. Topics include the Constitution, the Bill of Rights, the legislative process, civil and criminal law, administrative agencies, trade regulations, consumer protection, contracts, employment and personal property. PREREQUISITE: As required by program.	10	12
2019-2020	901813	BUSINESS STATISTICS I	This is an introductory study of basic statistical concepts applied to economic and business problems. Topics include the collection, classification, and presentation of data, statistical description and analysis of data, measures of central tendency and dispersion, elementary probability, sampling, estimation and introduction to hypothesis testing. PREREQUISITE: Two years of high school Algebra, Intermediate Algebra, or appropriate score on Math Placement Test.	10	12
2019-2020	901814	BUSINESS STATISTICS II	This course is a continuation of BUS 271. Topics include sampling theory, statistical interference, regression and correlation, chi square, analysis of variance, time series index numbers, and decision theory. PREREQUISITE: BUS 271.	10	12
2019-2020	901815	PRINCIPLES OF MANAGEMENT	This course provides a basic study of the principles of management. Topics include planning, organizing, staffing, directing, and controlling with emphasis on practical business applications. PREREQUISITE: As required by program.	10	12
2019-2020	901816	ECONOMIC LABOR RELATIONS	This is a basic management course in the field of labor. Topics include psychological and institutional factors, economic factors and economic analysis in such areas of the labor -management relations. PREREQUISITE: As required by program.	10	12
2019-2020	901817	PRINCIPLES OF MARKETING	This course provides a general overview of the field of marketing. Topics include marketing strategies, channels of distribution, marketing research, and consumer behavior. PREREQUISITE: As required by program.	10	12
2019-2020	901818	INTRODUCTION TO BUSINESS	This is a survey course designed to acquaint the student with American business as a dynamic process in a global setting. Topics include the private enterprise system, forms of business ownership, marketing, factors of production, personnel, labor, finance, and taxation. PREREQUISITE: As required by program.	10	12
2019-2020	901819	CUSTOMER SERVICES	This course presents the foundations required for developing skills and knowledge to work effectively with internal and external customers. The students will gain an understanding of the skills, attitudes, and thinking patterns needed to win customer satisfaction and loyalty. PREREQUISITE: As required by program.	10	12
2019-2020	901820	PERSONAL FINANCE	This course is a survey of topics of interest to the consumer. Topics include budgeting, financial institutions, basic income tax, credit, consumer protection, insurance, house purchase, retirement planning, estate planning, investing, and consumer purchases. PREREQUISITE: As required by program.	10	12
2019-2020	901821	INTRODUCTION TO FINANCE	This course is a survey of monetary and credit systems. Topics include the role of the Federal Reserve System, sources of capital, including forms of long-term corporate financing, and consumer credit in the financial structure of our economy. PREREQUISITE: As required by program.	10	12
2019-2020	901822	BUSINESS MATH	This course is a study of practical business mathematics. Topics include fundamental processes of arithmetic with emphasis on decimals and percentages, markup, discounts, bank reconciliation, simple and compound interest discounting notes, depreciation methods, and present value. PREREQUISITE: As required by program.	10	12
2019-2020	901823	RETAILING	This course is a study of the principles and practices of retailing. Topics include planning, policies and procedures of distribution, store design, layout and location, the economic and social role of retailing, competitive strategies, and retail management. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901824	PROMOTIONAL STRATEGIES	This course provides an overview of the tools and techniques used by businesses in their promotional strategies. Topics include variables affecting promotional decision, information needed to access these variables, the strengths and limitations of methods and strategies, and the fundamentals of managerial decision making. PREREQUISITE: As required by program.	10	12
2019-2020	901825	SALESMANSHIP	This course provides an introduction to the principles and practices of ethical salesmanship. Topics include industrial and retail selling methods of market analysis, professional salesmanship and sales methods, consumer types, attitudes, and behavior. PREREQUISITE: As required by program.	10	12
2019-2020	901826	PURCHASING	This course provides an overview of the principles of purchasing for resale. Topics include buying techniques, market buying systems, financial management of purchasing departments, market information systems, and problems confronting retail and wholesale buyers. PREREQUISITE: As required by program.	10	12
2019-2020	901827	TRENDS IN DISTRIBUTION	This course provides an overview of the distribution function. Topics include changing trends in distribution, problems created in areas of marketing, and ways to capitalize on latest distribution patterns. PREREQUISITE: As required by program.	10	12
2019-2020	901828	ELEMENTS OF SUPERVISION	This course is an introduction to the fundamentals of supervision. Topics include the functions of management, responsibilities of the supervisor, management-employee relations, organizational structure, project management, and employee training and rating. PREREQUISITE: As required by program.	10	12
2019-2020	901829	PERSONAL DEVELOPMENT	This course provides strategies for personal and profession development. Topics include business etiquette, personal appearance, interviewing techniques, and development of a self-concept necessary for business success. PREREQUISITE: As required by program.	10	12
2019-2020	901830	HUMAN RELATIONSHIPS	This course enables employees to better understand actions and motivations within the organizational structure. Topics include general principles of human behavior operating in the workplace. PREREQUISITE: As required by program.	10	12
2019-2020	901831	MANAGEMENT WORKSHOP I	This course is a part of a series of workshops where in current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12
2019-2020	901832	MANAGEMENT WORKSHOP II	This course is a part of a series of workshops where in current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12
2019-2020	901833	MANAGEMENT WORKSHOP III	This course is a part of a series of workshops where in current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12
2019-2020	901834	BUSINESS CO-OP I	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to practices in the business environment. The grade is based on the employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract. PREREQUISITE: Successful completion of two (2) business courses.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901835	BUSINESS CO-OP II	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to practices in the business environment. The grade is based on te employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract. PREREQUISITE: Successful completion of BUS 193.	10	12
2019-2020	901836	BUSINESS CO-OP III	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to practices in the business environment. The grade is based on te employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract. PREREQUISITE: Successful completion of BUS 194.	10	12
2019-2020	901837	BUSINESS CO-OP IV	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to practices in the business environment. The grade is based on te employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract. PREREQUISITE: Successful completion of BUS 195.	10	12
2019-2020	901838	BUSINESS CO-OP V	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to practices in the business environment. The grade is based on te employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract. PREREQUISITE: Successful completion of BUS 196.	10	12
2019-2020	901839	BUSINESS COMMUNICATION	This course covers written, oral and nonverbal communications. Topics include the application of communication principles to the production of clear, correct, and logically organized faxes, e-mail, memos, letters, resumes, reports, and other business communications. PREREQUISITE: As required by program.	10	12
2019-2020	901840	ACCOUNTING ON THE MICROCOMPUTER	This course utilizes the microcomputer in a study of accounting principles and practices. Emphasis is on the preparation and analysis of financial statements, measuring business activity, and making rational business decisions. PREREQUISITE: BUS 242.	10	12
2019-2020	901841	STATISTICAL DATA ANALYSIS	Introduction to the use of basic statistical concepts in business applications. Descriptive statistics, index numbers, measures of central tendency and variation, probability, random variables, discrete and continuous probability distributions, sampling distributions, and point and interval estimation are covered. Computer software applications are utilized. PREREQUISITE: CIS 146 and Precalculus Algebra or equivalents.	10	12
2019-2020	901842	HUMAN RESOURCE MANAGEMENT	This course provides an overview of the responsibilities of the supervisor of human resources. Topics include the selection , placement, testing, orientation, training, rating, promotion, and transfer of employees. PREREQUISITE: As required by program.	10	12
2019-2020	901843	MANAGEMENT SEMINAR	This course offers study of current problems, issues, and developments in the area of management. Students are guided through individual projects and outside research related to their areas of concentration and employment training. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901844	SMALL BUSINESS MANAGEMENT	This course provides an overview of the creation and operation of a small business. Topics include buying a franchise, starting a business, identifying capital resources, understanding markets, managing customer credit, managing accounting systems, budgeting systems, inventory systems, purchasing insurance, and the importance of appropriate legal counsel. PREREQUISITE: As required by program.	10	12
2019-2020	901845	INDUSTRIAL MANAGEMENT	This course provides an overview of management in an industrial setting. Topics includes operations analysis, research and development, physical facilities, production planning, productivity improvement, product flow, quality control, jobs and wages, and employee motivation. PREREQUISITE: As required by program.	10	12
2019-2020	901846	LABOR LAW	This course provides an overview of the laws related to labor and employment. Topics include the study of the various federal and state statues, including significant court decisions, relating to the rights and obligations of employers, employees, and unions. PREREQUISITE: As required by program.	10	12
2019-2020	901847	ALTERNATING BUSINESS CO-OP I	This three-course sequence allows students to alternate semesters of full-time work in a job closely related to the student's academic major with semesters of full-time academic work. Emphasis is placed on a student's work experience as it integrates academic knowledge with practical applications in the business environment. The grade is based on the employer's evaluation of student productivity, evaluative reports submitted by the student, and the development and assessment by the student of a learning contract. PREREQUISITE: As required by program.	10	12
2019-2020	901848	ALTERNATING BUSINESS CO-OP II	This three-course sequence allows students to alternate semesters of full-time work in a job closely related to the student's academic major with semesters of full-time academic work. Emphasis is placed on a student's work experience as it integrates academic knowledge with practical applications in the business environment. The grade is based on the employer's evaluation of student productivity, evaluative reports submitted by the student, and the development and assessment by the student of a learning contract. PREREQUISITE: As required by program.	10	12
2019-2020	901849	ALTERNATING BUSINESS CO-OP III	This three-course sequence allows students to alternate semesters of full-time work in a job closely related to the student's academic major with semesters of full-time academic work. Emphasis is placed on a student's work experience as it integrates academic knowledge with practical applications in the business environment. The grade is based on the employer's evaluation of student productivity, evaluative reports submitted by the student, and the development and assessment by the student of a learning contract. PREREQUISITE: As required by program.	10	12
2019-2020	901850	BUSINESS INTERNSHIP I	This two-course sequence allows the student to work part-time on a job closely related to his or her academic major while attending classes on a full-time basis. Emphasis is placed on a student's work experience as it integrates academic knowledge with practical applications in the business environment. The grade is based on a term paper, job-site visits by the instructor, the employer's evaluation of the student, and the development and assessment by the student of a learning contract. PREREQUISITE: Minimum 6 Semester hours completed. Minimum GPA 2.0 (C).	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	901851	BUSINESS INTERNSHIP II	This two-course sequence allows the student to work part-time on a job closely related to his or her academic major while attending classes on a full-time basis. Emphasis is placed on a student's work experience as it integrates academic knowledge with practical applications in the business environment. The grade is based on a term paper, job-site visits by the instructor, the employer's evaluation of the student, and the development and assessment by the student of a learning contract. PREREQUISITE: Minimum 6 Semester hours completed. Minimum GPA 2.0 (C).	10	12
2019-2020	902000	INTRODUCTION TO INORGANIC CHEMISTRY	This is a survey course of general chemistry for students who do not intend to major in science or engineering and may not be substituted for CHM 111. Lecture will emphasize the facts, principles, and theories of general chemistry including math operations, matter and energy, atomic structure, symbols and formulas, nomenclature, the periodic table, bonding concepts, equations, reactions, stoichiometry, gas laws, phases of matter, solutions, pH, and equilibrium reactions. Laboratory is required. PREREQUISITE: MTH 092 (Developmental Algebra II) or equivalent math placement score.	10	12
2019-2020	902001	INTRODUCTION TO ORGANIC CHEMISTRY	This is a survey course of organic chemistry and biochemistry for students who do not intend to major in science or engineering. Topics will include basic nomenclature, classification of organic compounds, typical organic reactions, reactions involved in life processes, function of biomolecules, and the handling and disposal of organic compounds. Laboratory is required. PREREQUISITE: CHM 104 (Introduction to Inorganic Chemistry) or CHM 111 (College Chemistry I)	10	12
2019-2020	902002	CHEMISTRY FOR FUNERAL SERVICES	This course surveys the basic principles of chemistry as they relate to Funeral Service. Especially stressed are the chemical principles involved in sanitation, disinfection, and public health and embalming practice. The development and use of personal, professional and community sanitation practices is delved into as well as use and precautions related to potentially harmful chemicals that are currently used in the field of funeral service. Upon completion, the student will be able to demonstrate competence in the seven objectives required in the American Board of Funeral Service Education Curriculum Outline. PREREQUISITE: As required by program.	10	12
2019-2020	902003	INTRODUCTORY CHEMISTRY FOR NON-MAJORS I	Three lectures and one three-hour laboratory. This is a survey course to teach basic scientific literacy and chemical principles. Includes environmental chemistry, household chemicals, and other subjects pertinent to non-majors. Not open to students that have earned credits in CHM 104 or CHM 111. PREREQUISITE or CO-REQUISITE: MTH 100.	10	12
2019-2020	902004	INTRODUCTORY CHEMISTRY FOR NON-MAJORS II	Three lectures and one three-hour laboratory. This is a survey course to teach basic scientific literacy and chemical principles. Includes environmental chemistry, household chemicals, nutrition, genetic engineering, and other subjects pertinent to non-majors. Not open to students that have earned credits in CHM 105 or CHM 112. PREREQUISITE: CHM 109	10	12
2019-2020	902005	COLLEGE CHEMISTRY I	This is the first course in a two-semester sequence designed for the science or engineering major who is expected to have a strong background in mathematics. Topics in this course include measurement, nomenclature, stoichiometry, atomic structure, equations and reactions, basic concepts of thermochemistry, chemical and physical properties, bonding, molecular structure, gas laws, kinetic-molecular theory, condensed matter, solutions, colloids, and some descriptive chemistry topics. Laboratory is required. PREREQUISITE or CO-REQUISITE: MTH 112 (Precalculus Algebra) or equivalent math placement score.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	902006	COLLEGE CHEMISTRY II	This is the second course in a two-semester sequence designed primarily for the science and engineering student who is expected to have a strong background in mathematics. Topics in this course include chemical kinetics, chemical equilibria, acids and bases, ionic equilibria of weak electrolytes, solubility product principle, chemical thermodynamics, electrochemistry, oxidation-reduction, nuclear chemistry, an introduction to organic chemistry and biochemistry, atmospheric chemistry, and selected topics in descriptive chemistry including the metals, nonmetals, semi-metals, coordination compounds, transition compounds, and post-transition compounds. Laboratory is required. PREREQUISITE: CHM 111 (College Chemistry I) and MTH 112 (Precalculus Algebra)	10	12
2019-2020	902007	CHEMISTRY RECITATION I	Individual colleges may choose to require this course as a co-requisite for CHM 111. The objective of this course is for students to improve their ability to work chemistry problems. By the end of the course the student will be able to work chemistry problems appropriate to CHM 111. CO-REQUISITE: CHM 111 (College Chemistry I)	10	12
2019-2020	902008	CHEMISTRY RECITATION II	Individual colleges may choose to require this course as a co-requisite for CHM 112. The objective of this course is for students to improve their ability to work chemistry problems. By the end of the course the student will be able to work chemistry problems appropriate to CHM 112 including kinetics, chemical equilibrium, acid-base, pH, titration, electrochemistry, oxidation-reduction, and nuclear chemistry problems. CO-REQUISITE: CHM 112 (College Chemistry II)	10	12
2019-2020	902009	QUANTITATIVE ANALYSIS	This course covers the theories, principles, and practices in standard gravimetric, volumetric, calorimetric, and electrometric analysis with special emphasis on equilibrium in acid-base and oxidation-reduction reactions and stoichiometry of chemical equations. Laboratory is required and will include classical techniques in chemical analysis, modern methods of chemical separation, and basic instrumental techniques. PREREQUISITE: CHM 112 (College Chemistry II).	10	12
2019-2020	902010	ORGANIC CHEMISTRY I	This is the first course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis, and typical reactions for aliphatic, alicyclic, and aromatic compounds with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and will include the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. PREREQUISITE: CHM 112 (College Chemistry II).	10	12
2019-2020	902011	ORGANIC CHEMISTRY II	This is the second course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis, and typical reactions for aliphatic, alicyclic, aromatic, and biological compounds, polymers and their derivatives, with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and will include the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. PREREQUISITE: CHM 221 (Organic Chemistry I).	10	12
2019-2020	902012	RECITATION IN ORGANIC CHEMISTRY I	This course includes problem-solving work sessions in support of CHM 221 lecture and lab. CO-REQUISITE: CHM 221.	10	12
2019-2020	902013	RECITATION IN ORGANIC CHEMISTRY II	This course includes problem-solving work sessions in support of CHM 222 lecture and lab. CO-REQUISITE: CHM 222.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	902014	INTRODUCTORY BIOCHEMISTRY	This course covers the fundamentals of biochemistry including structure, properties, and activities of biomolecules, biosynthesis of representative classes of compounds, and metabolic pathways and cycles in organisms. Laboratory is required and will be illustrative of the principles considered in lecture including various chromatographic and spectrographic techniques. PREREQUISITE: CHM 105 (Introduction to Organic Chemistry) or CHM 221 (Organic Chemistry I).	10	12
2019-2020	902015	SAMPLING AND ANALYSIS	This course places emphasis on the methodology of sampling, analyzing, and interpreting results of hazardous materials. Topics will include industrial hygiene monitoring, testing, pH and moisture content, selecting analytical service laboratories, an introduction to chemical methods of analysis including spectroscopy and chromatography. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	902200	INTRODUCTION TO CRIMINAL JUSTICE	This course surveys the entire criminal justice process from law enforcement to the administration of justice through corrections. It discusses the history and philosophy of the system and introduces various career opportunities. PREREQUISITE: As required by program.	10	12
2019-2020	902201	INTRODUCTION TO LAW ENFORCEMENT	This course examines the history and philosophy of law enforcement, as well as the organization and jurisdiction of local, state, and federal agencies. It includes the duties and functions of law enforcement officers. PREREQUISITE: As required by program.	10	12
2019-2020	902202	INTRODUCTION TO CORRECTIONS	This course provides an introduction to the philosophical and historical foundations of corrections in America. Incarceration and some of its alternatives are considered. PREREQUISITE: As required by program.	10	12
2019-2020	902203	INTRODUCTION TO SECURITY	This course surveys the operation, organization and problems in providing safety and security to business enterprises. Private, retail, and industrial security are covered. PREREQUISITE: As required by program.	10	12
2019-2020	902204	POLICE PATROL	This course studies the duties, and responsibilities of the uniformed police patrol. It emphasizes the importance of patrol functions and includes principles, methods, procedures and resources used in police patrol operations. PREREQUISITE: As required by program.	10	12
2019-2020	902205	COMMUNITY RELATIONS	This course discusses the role of the police officer in achieving and maintaining public support. It includes public information, juvenile relations, public relations, service, and mobilizing community involvement and cooperation. PREREQUISITE: As required by program.	10	12
2019-2020	902206	INTRODUCTION TO LAW AND JUDICIAL PROCESS	This course provides an introduction to the basic elements of substantive and procedural law, and the stages in the judicial process. It includes an overview of state and federal court structure. PREREQUISITE: As required by program.	10	12
2019-2020	902207	CRIMINAL LAW AND PROCEDURE	This course examines both substantive and procedural law. The legal elements of various crimes are discussed, with emphasis placed on the contents of the Alabama Code. Areas of criminal procedure essential to the criminal justice profession are also covered. PREREQUISITE: As required by program.	10	12
2019-2020	902208	CRIMINAL EVIDENCE	This course considers the origins of the law of evidence and current rules of evidence. Types of evidence, their definitions and uses are covered, as well as the functions of the court regarding evidence. PREREQUISITE: As required by program.	10	12
2019-2020	902209	CONSTITUTIONAL LAW	This course involves constitutional law as it applies to criminal justice. It includes recent Supreme Court decisions affecting criminal justice professionals, such as right to counsel, search and seizure, due process and civil rights. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	902210	INTRODUCTION TO DNA IN CRIMINALISTICS	This course is designed as a three-hour course within the criminalistics curriculum. There is no additional laboratory, however class participation will involve in-class laboratory procedures. PREREQUISITE: As required by program.	10	12
2019-2020	902211	CORRECTIONAL INSTITUTIONS	This course examines correctional institutions and their functions. Topics covered include prison facilities, programs, and the effects of incarceration. PREREQUISITE: As required by program.	10	12
2019-2020	902212	COMMUNITY BASED CORRECTIONS	This course examines various forms of community corrections and alternative sentences. Probation, parole, halfway houses, work release, community service, electronic monitoring, and camps are among the programs considered. PREREQUISITE: As required by program.	10	12
2019-2020	902213	PRIVATE AND RETAIL SECURITY	This course surveys the legal foundations, regulations, training, and other issues in private security. Typical offenses, laws, and law enforcement strategies common in the field are covered. Methods of loss prevention are examined. PREREQUISITE: As required by program.	10	12
2019-2020	902214	INDUSTRIAL SECURITY	This course analyzes the security requirements for public or private industrial and commercial facilities. Physical security, loss prevention, and classified operations are included. PREREQUISITE: As required by program.	10	12
2019-2020	902215	INTERNATIONAL SECURITY	This course provides an understanding of the security implications of international programs, commercial sales, the inter-relationship of the information disclosure and technology transfer, the International Traffic in Arms Regulations, and the Export Administration Regulations. PREREQUISITE: None.	10	12
2019-2020	902216	SECURITY MANAGEMENT	This course introduces the student to sound security management theories, principles, budgeting, communications, and education. PREREQUISITE: None.	10	12
2019-2020	902217	INTRODUCTION TO PHYSICAL SECURITY	This course provides an overview of the protection of people, property, and facilities through the use of security forces, systems, and procedures. PREREQUISITE: None.	10	12
2019-2020	902218	SECURITY RISK MANAGEMENT	This course deals with the identification of assets, threats, and vulnerabilities, and the development of countermeasures. PREREQUISITE: As required by program.	10	12
2019-2020	902219	CRIMINAL AND DEVIANT BEHAVIOR	This course analyzes criminal and deviant behavior systems. An emphasis is placed on sociological and psychological theories of crime causation. PREREQUISITE: As required by program.	10	12
2019-2020	902220	NARCOTICS/DANGEROUS DRUGS	This course surveys the history and development of drug abuse in society. Theories of drug abuse, identification and classification of drugs are covered. Strategies for combating the drug problem are discussed. PREREQUISITE: As required by program.	10	12
2019-2020	902221	TREATMENT OF THE OFFENDER	This courses looks at the principles and techniques of dealing with the detained offender. Topics include searching, transporting, interviewing, and counseling. PREREQUISITE: As required by program.	10	12
2019-2020	902222	INTRODUCTION TO CRIMINOLOGY	This course delves into the nature and extent of crime in the United States, as well as criminal delinquent behavior and theories of causation. This study includes criminal personalities, principles of prevention, control, and treatment. PREREQUISITE: As required by program.	10	12
2019-2020	902223	JUVENILE DELINQUENCY	This course examines the causes of delinquency. It also reviews programs of prevention, and control of juvenile delinquency as well as the role of the courts. PREREQUISITE: As required by program.	10	12
2019-2020	902224	CORRECTIONAL COUNSELING TECHNIQUES	This course focuses on the basic concepts of influencing human behavior. Theories of individual and group counseling are emphasized, as well as some of the barriers faced in dealing with the public offender. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	902225	POLICE ORGANIZATION AND ADMINISTRATION	This course examines the principles of organization and administration of law enforcement agencies. Theories of management, budgeting, and various personnel issues are covered. PREREQUISITE: As required by program.	10	12
2019-2020	902226	REPORT WRITING	This course reviews the various types of police reports, including incident, investigative, progress, and others. The course analyzes the different forms of written communications used in law enforcement. PREREQUISITE: As required by program.	10	12
2019-2020	902227	TRAFFIC CONTROL	This course is designed to teach the student traffic safety planning, traffic law enforcement, regulation and control. The Alabama Motor Vehicle Code is examined. PREREQUISITE: As required by program.	10	12
2019-2020	902228	FIREARMS	This course covers the moral implications, legal provisions, safety precautions, and restrictions governing the use of firearms. The use of sidearms and riot guns with stationary and combat targets is explored. PREREQUISITE: As required by program.	10	12
2019-2020	902229	CRIMINAL INVESTIGATION	This course explores the theory and scope of criminal investigation. The duties and responsibilities of the investigator are included. The techniques and strategies used in investigation are emphasized. PREREQUISITE: As required by program.	10	12
2019-2020	902230	FINGERPRINT SCIENCE	This course involves the history, classification, and current procedures of handling latent fingerprints. Latent print examination, filing, and courtroom presentations are considered. PREREQUISITE: As required by program.	10	12
2019-2020	902231	HOMICIDE INVESTIGATION	This course covers the principles, techniques and strategies of homicide investigation. Topics emphasized include ballistics, pathology, toxicology, immunology, jurisprudence, and psychiatry. PREREQUISITE: As required by program.	10	12
2019-2020	902232	CRIMINALISTICS	This course surveys the different techniques of scientific investigation. Emphasis is given to ballistics, photography, fingerprints, DNA, trace evidence, body fluids, casts, and the like. PREREQUISITE: As required by program.	10	12
2019-2020	902233	ADVANCED CRIMINALISTICS	This course covers the collection, handling, and analysis of evidence from crime scene to laboratory to courtroom. Topics include hair, fibers, body fluids, firearms, glass, paint, drugs, documents, etc. Laboratory experiences may be utilized. PREREQUISITE: As required by program.	10	12
2019-2020	902234	FORENSIC PHOTOGRAPHY	This course analyzes the principles, techniques, and uses of forensic photography in criminal investigation. Emphasis is placed on basic camera operation and mechanics, crime scene photography, and rules of photographic evidence. PREREQUISITE: As required by program.	10	12
2019-2020	902235	CRIME SCENE INVESTIGATION	This course examines the fundamentals of crime scene investigation. Measuring and sketching the scene, photography, evidence collection and preservation, and courtroom procedures are considered. PREREQUISITE: As required by program.	10	12
2019-2020	902236	ISSUES IN LAW ENFORCEMENT	This course involves research, writing, and discussion of selected subjects relating to law enforcement. An analysis of contemporary police problems is provided. PREREQUISITE: As required by program.	10	12
2019-2020	902237	CORRECTIONAL REHABILITATION	This course surveys the different methods used in the rehabilitation of public offenders. Topics include individual and group counseling, education, recreation, religion, drug treatment, and vocational programs. PREREQUISITE: As required by program.	10	12
2019-2020	902238	ISSUES IN CORRECTIONS	This course involves research, writing, and discussion of selected subjects relating to corrections. An analysis of contemporary problems in corrections is provided. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	902239	INTERNSHIP IN CRIMINAL JUSTICE	This course involves practical experience with a criminal justice agency under faculty supervision. Permission of the instructor is required. This course may be repeated with the approval of the department head. PREREQUISITE: As required by program.	10	12
2019-2020	902400	INTRODUCTION TO DANCE STYLES	Introduction to dance styles. PREREQUISITE: As required by program.	10	12
2019-2020	902401	ELEMENTARY MODERN DANCE I	A studio course in modern dance technique at the elementary level. PREREQUISITE: As required by program.	10	12
2019-2020	902402	ELEMENTARY MODERN DANCE II	Continuation of Elementary Modern Dance I, preparing the student for Intermediate modern dance. Offered in the spring semester. PREREQUISITE: DNC 111 and/or as required by program.	10	12
2019-2020	902403	ELEMENTARY BALLET I	A studio course in classical ballet at the elementary level. Offered in the fall semester. PREREQUISITE: As required by program.	10	12
2019-2020	902404	ELEMENTARY BALLET II	The development of classical theory and practical ballet, at the elementary level. Offered in the spring semester. PREREQUISITE: DNC 121 and/or as required by program.	10	12
2019-2020	902405	ELEMENTARY JAZZ I	A studio course that introduces the varied movement styles and rhythm of the jazz idiom. Offered in the fall semester. PREREQUISITE: As required by program.	10	12
2019-2020	902406	ELEMENTARY JAZZ II	This class is a blend of modern jazz and ballet technique focusing on breath, alignment, and a stylized freedom of movement. PREREQUISITE: DNC 151 and/or as required by program.	10	12
2019-2020	902407	DANCE APPRECIATION	An introduction to dance through the analysis of historical and contemporary dance forms. Films, demonstrations, and performances are used in this class. PREREQUISITE: As required by program.	10	12
2019-2020	902408	FITNESS DANCE I	This course uses dance activity to increase a student's level of physical fitness. Flexibility exercises and body toning/sculpting exercises, which have been specially designed to develop the dancer's body, will be used in class. PREREQUISITE: As required by program.	10	12
2019-2020	902409	FITNESS DANCE II	This course is a continuation of DNC 140. PREREQUISITE: DNC 140 and/or as required by program.	10	12
2019-2020	902410	FITNESS DANCE III	This course is a continuation of DNC 141. PREREQUISITE: DNC 141 and/or as required by program.	10	12
2019-2020	902411	BALLET TECHNIQUE I	Intensive training in classical ballet for students intending to major in dance. Intermediate level technique is studied, emphasizing posture and placement. Students are evaluated on their ability to perform the work to the required standard. PREREQUISITE: As required by program.	10	12
2019-2020	902412	BALLET TECHNIQUE II	A continuation of DNC 143. PREREQUISITE: As required by program.	10	12
2019-2020	902413	DANCE WORKSHOP I	This course provides practical experience in the production and performance of a dance presentation, including sound, lighting, choreography, rehearsal, costuming, make-up and other aspects of dance presentation. PREREQUISITE: As required by program.	10	12
2019-2020	902414	DANCE WORKSHOP II	This course is a continuation of DNC 160. PREREQUISITE: DNC 160 and/or as required by program.	10	12
2019-2020	902415	DANCE WORKSHOP III	This course is a continuation of DNC 161. PREREQUISITE: DNC 161 and/or as required by program.	10	12
2019-2020	902416	INTERMEDIATE MODERN DANCE	Course Description: A studio course in modern dance technique at the intermediate level. Prerequisites: DNC 111	10	12
2019-2020	902417	THEATER DANCE I	This is the first in a three-course series that introduces the student to a variety of dance styles used in musical theater. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	902418	THEATER DANCE II	This course is a continuation of DNC 231. PREREQUISITE: DNC 231 and/or as required by program.	10	12
2019-2020	902419	THEATER DANCE III	This course is a continuation of DNC 232. PREREQUISITE: DNC 232 and/or as required by program.	10	12
2019-2020	902420	CHOREOGRAPHY I	Students are involved in individual and group choreographic projects in which musical and spatial elements are explored. PREREQUISITE: As required by program.	10	12
2019-2020	902421	CHOREOGRAPHY II	This course is a continuation of Choreography I. PREREQUISITE: As required by program.	10	12
2019-2020	902422	BALLET TECHNIQUE III	Ballet technique at advanced level emphasizing performance quality, musicality, and classical style. PREREQUISITE: As required by program.	10	12
2019-2020	902423	BALLET TECHNIQUE IV	A continuation of DNC 243. PREREQUISITE: As required by program.	10	12
2019-2020	902424	DANCE WORKSHOP IV	This course is a continuation of DNC 162. PREREQUISITE: DNC 162 and/or as required by program.	10	12
2019-2020	902425	DANCE WORKSHOP V	This course is a continuation of DNC 260. PREREQUISITE: DNC 260 and/or as required by program.	10	12
2019-2020	902426	DANCE WORKSHOP VI	This course is a continuation of DNC 261. PREREQUISITE: DNC 261 and/or as required by program.	10	12
2019-2020	902427	JAZZ DANCE I	This is the first of a six-course sequence which provides the student a study of basic principles and techniques of jazz dance, including an introduction to the varied movement styles and rhythms of this dance form. PREREQUISITE: As required by program.	10	12
2019-2020	902428	JAZZ DANCE II	This course is a continuation of DNC 267. PREREQUISITE: DNC 267 and/or as required by program.	10	12
2019-2020	902429	JAZZ DANCE III	This course is a continuation of DNC 268. PREREQUISITE: DNC 268 and/or as required by program.	10	12
2019-2020	902430	JAZZ DANCE IV	This course is a continuation of DNC 269. PREREQUISITE: DNC 269 and/or as required by program.	10	12
2019-2020	902431	JAZZ DANCE V	This course is a continuation of DNC 270. PREREQUISITE: DNC 270 and/or as required by program.	10	12
2019-2020	902432	JAZZ DANCE VI	This course is a continuation of DNC 271. PREREQUISITE: DNC 271 and/or as required by program.	10	12
2019-2020	902600	PRINCIPLES OF MACROECONOMICS	This course is an introduction to macroeconomic theory, analysis, and policy applications. Topics include the following: scarcity, demand and supply, national income analysis, major economic theories concerning monetary and fiscal policies as stabilization measures, the banking system, and other economic issues or problems including international trade. PREREQUISITE: As required by program.	10	12
2019-2020	902601	PRINCIPLES OF MICROECONOMICS	This course is an introduction of the microeconomic theory, analysis, and applications. Topics include scarcity; the theories of consumer behavior, production and cost, markets, output and resource pricing, and international aspects of microeconomics. PREREQUISITE: As required by program.	10	12
2019-2020	902602	CONSUMER ECONOMICS	This course explores the application of general economic principles and practices concerning personal consuming, saving, and investing. It also stresses the relationship of sound personal financial management with successful career goals. Topics covered with include: consumerism, income and family financial planning, insurance, and investments. PREREQUISITE: As required by program.	10	12
2019-2020	902800	EXPLORING TEACHING AS A PROFESSION	This course provides students with an opportunity to explore teaching as a career. The role of the teacher, the benefits of teaching and the steps to becoming a teacher are some of the topics that will be explored. Students will be exposed to examples of good teaching and self-assess their personal and professional qualities. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903000	ENGINEERING ORIENTATION	This course is designed to make beginning engineering students aware of the many facets of engineering, of their relation to society, and of the objectives of the engineering curriculum. It is designed to stimulate interest in engineering and student-instructor dialogue. PREREQUISITE: As required by program.	10	12
2019-2020	903001	ENGINEERING FOUNDATIONS	This course introduces students to engineering as a profession, basic engineering skills, and the design process. The course includes components to develop teaming and oral and written communication skills. The course also provides an introduction to computer tools used by engineers (e.g., spreadsheet, word processing, presentation software, Internet). COREQUISITE: MTH 113 OR MTH 115As required by program.	10	12
2019-2020	903002	MODERN GRAPHICS FOR ENGINEERS	This course provides an introduction to manual and computer-assisted techniques of graphic communication employed by professional engineers. Topics include: lettering; instrumental and computer-aided drafting; technical sketching; orthographic projection; pictorial, sectional, and auxiliary views; and dimensioning. PREREQUISITE: As required by program.	10	12
2019-2020	903003	COMPUTER METHODS FOR ENGINEERS	This course consists of engineering applications using the FORTRAN IV computer programming language. PREREQUISITE: MTH 125.	10	12
2019-2020	903004	COMPUTER METHODS FOR ENGINEERS USING MATLAB	This course introduces students to the concepts and practices involved in using high-level computer environments to solve engineering problems. Programming environments such as MATLAB will be used. PREREQUISITE: MTH 125.	10	12
2019-2020	903005	ENGINEERING MECHANICS - STATICS	This course includes vector algebra, force and moment systems, equilibrium of force systems, trusses, friction and property of surfaces. PREREQUISITE: PHY 213. (COREREQUISITE: MTH 227.)	10	12
2019-2020	903006	ENGINEERING MECHANICS - DYNAMICS	This course includes kinematics of particles, plane kinematics of rigid bodies, kinetics of particles and rigid bodies by Newton's Laws; principles of work-energy and impulse-momentum. PREREQUISITE: EGR 220.	10	12
2019-2020	903007	ELECTRIC CIRCUITS	This course is an introduction to electrical circuit theory, voltage-current relationships in linear circuit elements. Kirchoff's laws, with applications to simple networks, and loop and node equations. Complex power, power factor correction, and network analysis techniques. PREREQUISITE: MTH 227, PHY214.	10	12
2019-2020	903008	MECHANICS OF MATERIALS	This course includes the study of the variation of stress and strain at a point; Mohr's circle, strain gage roesttes; stresses and strains resulting from axial and torsional loads, shear and moment in beams; beam stresses; beam deflection; combined stresses. PREREQUISITE: EGR 220.	10	12
2019-2020	903009	THERMODYNAMICS	This course includes the study of the basic laws of thermodynamics; unsteady and steady states; properties of matter; processes of fluids; first and second laws; availability of energy; irreversibility. PREREQUISITE: MTH 126, PHY 214, EGR 156.	10	12
2019-2020	903200	VOCATIONAL TECHNICAL ENGLISH I	This course is designed to enhance reading and writing skills for the workplace. Emphasis is placed on technical reading, job-related vocabulary, sentence writing, punctuation, and spelling with substantial focus on occupational performance requirements. Upon completion, students should be able to identify main ideas with supporting details and produce mechanically correct short writings appropriate to the workplace. NCA. PREREQUISITE: Satisfactory Placement Test Score	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903201	ENGLISH COMPOSITION I	English Composition I provides instruction and practice in the writing of at least six (6) extended compositions and the development of analytical and critical reading skills and basic reference and documentation skills in the composition process. English Composition I may include instruction and practice in library usage. PREREQUISITE: Successful completion of ENG 093; or a score of 42 or better on the English section of ASSET; or a score of 20 or better on the ACT (or equivalent SAT score).	10	12
2019-2020	903202	ENGLISH COMPOSITION II	English Composition II provides instruction and practice in the writing of six (6) formal, analytical essays, at least one of which is a research project using outside sources and/or references effectively and legally. Additionally, English Composition II provides instruction in the development of analytical and critical reading skills in the composition process. English Composition II may include instruction and practice in library usage. PREREQUISITE: A grade of "C" or better in ENG 101 or the equivalent.	10	12
2019-2020	903203	AMERICAN LITERATURE I	This course is a survey of American literature from its inception to the middle of the nineteenth century. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research. PREREQUISITE: ENG 102 or equivalent.	10	12
2019-2020	903204	AMERICAN LITERATURE II	This course is a survey of American literature from the middle of the nineteenth century to the present. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research. PREREQUISITE: ENG 102 or equivalent.	10	12
2019-2020	903205	ENGLISH LITERATURE I	This course is a survey of English literature from its the Anglo-Saxon period to the Romantic Age. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research. PREREQUISITE: ENG 102 or equivalent.	10	12
2019-2020	903206	ENGLISH LITERATURE II	This course is a survey of English literature from the Romantic Age to the present. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research. PREREQUISITE: ENG 102 or equivalent.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903207	WORLD LITERATURE I	This course is a study of selected literary masterpieces from Homer to the Renaissance. Emphasis is placed on major representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research. PREREQUISITE: ENG 102 or equivalent.	10	12
2019-2020	903208	WORLD LITERATURE II	This course is a study of selected literary masterpieces from the Renaissance to the present. Emphasis is placed on major representative works and writers of this period and on the literary, cultural, historical, and philosophical forces that shaped these works and that are reflected in them. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research. PREREQUISITE: ENG 102 or equivalent.	10	12
2019-2020	903209	VOCABULARY EXPANSION	This course is designed to broaden and enrich the student's English vocabulary. Emphasis is placed on Latin and Greek origins of modern English words; prefixes, suffixes, and roots; word analysis; etymologies; analogies; and dictionary usage. Students will demonstrate an understanding of a variety of formal modern English words. PREREQUISITE: As required by program.	10	12
2019-2020	903210	TECHNICAL REPORT WRITING	This course provides instruction in the production of technical and/or scientific reports. Emphasis is placed on research, objectivity, organization, composition, documentation, and presentation of the report. Students will demonstrate the ability to produce a written technical or scientific report by following the prescribed process and format. PREREQUISITE: ENG 101 or the equivalent.	10	12
2019-2020	903211	APPLIED WRITING I	This course is a study of various types of written documents required in scientific, technical, and other specialized fields. Emphasis is placed on the production of such documents, including research, documentation, graphical displays, the abstract, appropriate diction, grammar, punctuation, and audience. Students will demonstrate the ability to produce effective reports, letters, memoranda, and similar documents. PREREQUISITE: Appropriate score on the ASSET placement test or the equivalent.	10	12
2019-2020	903212	APPLIED WRITING II	A continuation of ENG 131, this course is a study of various types of written documents required in scientific, technical, and other specialized fields. Emphasis is placed on the production of such documents, including research, documentation, graphical displays, the abstract, appropriate diction, grammar, punctuation, and audience. Students will demonstrate the ability to produce effective reports, letters, memoranda, and similar documents. PREREQUISITE: ENG 131.	10	12
2019-2020	903213	EARLY ENGLISH LITERATURE	This course begins with the Anglo-Saxon period and ends with the publication of Paradise Lost and includes extensive treatment of Chaucer, Shakespeare, and Milton, as well as other important early authors including a significant number of early American writers. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works to their historical and literary contexts and understand relevant criticism and research. PREREQUISITE: ENG 102.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903214	MODERN LITERATURE IN ENGLISH	This is a survey course of eighteenth- and nineteenth-century literature written in English. It includes roughly equal treatment of Enlightenment, Romantic, and Victorian literature in both England and America. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works to their historical and literary contexts and understand relevant criticism and research. PREREQUISITE: ENG 102.	10	12
2019-2020	903215	TWENTIETH CENTURY LITERATURE IN ENGLISH	Coverage of this course starts with the beginning of the 20th century and ends with the present. This course will cover standard literary texts from both England and America, with an inclusion of literature, which reflects the globalization of English in the 20th Century. Upon completion and in written compositions, students will be able to interpret the aesthetic and thematic aspects of these works to their historical and literary contexts and understand relevant criticism and research. PREREQUISITE: ENG 102.	10	12
2019-2020	903216	CREATIVE WRITING I	This course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. Students will compose a significant body of imaginative literature, which may be read by or to the class. PREREQUISITE: ENG 102 and/or as required by program.	10	12
2019-2020	903217	CREATIVE WRITING II	A continuation of ENG 246, this course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. Students will compose a significant body of imaginative literature, which may be read by or to the class. PREREQUISITE: ENG 246 and/or as required by program.	10	12
2019-2020	903218	CREATIVE WRITING III	A continuation of ENG 247, this course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. Students will compose a significant body of imaginative literature, which may be read by or to the class. PREREQUISITE: ENG 247 and/or as required by program.	10	12
2019-2020	903219	CREATIVE WRITING IV	A continuation of ENG 248, this course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. Students will compose a significant body of imaginative literature, which may be read by or to the class. PREREQUISITE: ENG 248 and/or as required by program.	10	12
2019-2020	903220	GREAT WORLD MASTERPIECES I	This course is a survey of the significant literature of Western civilization, beginning with ancient Greece and continuing through the Renaissance. Emphasis is placed on representative works and writers, on the ideas that shaped and that are reflected in these works, and on the literary periods and movements during which these works were produced. Students will demonstrate through tests and literary critiques with appropriate research and documentation an understanding of these works. PREREQUISITE: ENG 102 or the equivalent.	10	12
2019-2020	903221	GREAT WORLD MASTERPIECES II	This course is a survey of the significant literature of Western civilization, beginning with the Renaissance and continuing to the present. Emphasis is placed on representative works and writers, on the ideas that shaped and that are reflected in these works, and on the literary periods and movements during which these works were produced. Students will demonstrate through tests and literary critiques with appropriate research and documentation an understanding of these works. PREREQUISITE: ENG 102 or the equivalent.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903222	CLASSICAL LITERATURE	This course is a study of significant works of Greek and Roman literature. Emphasis is placed on the influence on Western heritage of ancient thought expressed in these works. Students will demonstrate an understanding of the works studied and of the impact of these works on Western civilization and culture. PREREQUISITE: ENG 101 and/or as required by program.	10	12
2019-2020	903223	CLASSICAL MYTHOLOGY	This course is a study of Greek and Roman mythology and the influence of classical mythology on Western literature. Emphasis is placed on various classical myths and on the influence on Western literature of these myths. Students will demonstrate through tests and papers an understanding of classical myths and their relationship to Western literature. PREREQUISITE: ENG 102 or the equivalent.	10	12
2019-2020	903224	INTRODUCTION TO FOLKLORE	This course is a preliminary study of folklore. Emphasis is placed on methods and techniques of collecting folklore and on the recording of findings. Students will demonstrate an understanding of the various forms of folklore and on collection techniques. PREREQUISITE: As required by program.	10	12
2019-2020	903225	AFRICAN AMERICAN LITERATURE	This course is a study of literature produced by representative African Americans from the eighteenth century to the present. The course emphasizes the diversity of themes and techniques found in these works and examines the historical, cultural, literary, and philosophical forces that shaped these works and that are reflected in them. Students will demonstrate the ability to interpret the literature and to relate the works to their historical and literary contexts. PREREQUISITE: ENG 102 or the equivalent.	10	12
2019-2020	903226	SPECIAL TOPICS IN LANGUAGE AND LITERATURE	This course, which may be repeated for credit so long as the topics differ, permits a student to study with an instructor a topic in English language or in literature. Emphasis is placed on a narrowly focused topic in which the instructor has special expertise, knowledge, or interest. Students will demonstrate through a research paper and/or a literary critique an understanding of the topic. PREREQUISITE: As required by program.	10	12
2019-2020	903227	DIRECTED STUDIES IN LANGUAGE AND LITERATURE	This course, which may be repeated for credit so long as the topics differ, provides the student the opportunity to study an English-language or literary topic chosen by the student in consultation with the instructor. Emphasis is placed on the student's investigating the topic and reporting the results of the investigation. The student will demonstrate knowledge of the topic through either a written or an oral presentation. PREREQUISITE: As required by program.	10	12
2019-2020	903228	INTRODUCTORY TECHNICAL ENGLISH I	This course is designed to enhance reading and writing skills for the workplace. Emphasis is placed on technical reading, job-related vocabulary, sentence writing, punctuation, and spelling with substantial focus on occupational performance requirements. Upon completion, students should be able to identify main ideas with supporting details and produce mechanically correct short writings appropriate to the workplace. NCA. PREREQUISITE: Satisfactory placement score.	10	12
2019-2020	903229	INTRODUCTORY TECHNICAL ENGLISH II	This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and developing interpersonal communication skills with employees and the public with substantial focus on occupational performance requirements and industry standards. Upon completion students should be able to prepare effective, short, and job-related written and oral communications. NCA. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903400	ENTREPRENEURIAL MARKETING	This course is designed to help students learn about best practices in Entrepreneurial Marketing. Topics include the analysis of marketing opportunities, identification of the target audience, and the development of a marketing strategy, brand positioning and an integrated marketing plan. Upon completion, students should be able to demonstrate an understanding of marketing issues that are unique to new ventures and small businesses. PREREQUISITE: As required by program.	10	12
2019-2020	903401	ENTREPRENEURIAL FINANCE	This course is designed to teach students the accounting issues that are important to the business owner, not the accounting practitioner. Topics include start-up funding, sources of financing, identifying and preventing fraud, buying and valuing ventures, and harvesting the value created in business ventures. This course also covers the creation of personal financial statements and pro forma financial statements which are crucial components of a business plan. PREREQUISITE: As required by program.	10	12
2019-2020	903402	INNOVATION AND CREATIVITY	This course is designed to develop in students a mindset for thinking creatively and prepare them to create their own businesses or revitalize a business that has lost its direction by learning to observe things from different perspectives and to reason from different viewpoints in order to develop effective solutions to problems. PREREQUISITE: As required by program.	10	12
2019-2020	903403	BUSINESS PLANNING	This capstone course is designed to build upon information from previous courses. Students will complete a business plan, pieces of which were constructed in previous courses. Additionally, teams of students will compete in a business simulation. As a part of this activity, teams will submit regular "management" reports discussing the results of the decisions they have made. Upon completion, students will be prepared to lead their own venture. PREREQUISITE: As required by program.	10	12
2019-2020	903404	SMALL BUSINESS MANAGEMENT	This course provides an overview of the creation and operation of a small business. Topics include buying a franchise, starting a business, identifying capital resources, understanding markets, managing customer credit, managing accounting systems, budgeting systems, inventory systems, purchasing insurance, and the importance of appropriate legal counsel. PREREQUISITE: As required by program. Note: This course is also taught as BUS 279.	10	12
2019-2020	903600	INTRODUCTORY FRENCH I	This course provides an introduction to French. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of French-speaking areas. PREREQUISITE: As required by program.	10	12
2019-2020	903601	INTRODUCTORY FRENCH II	This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of French-speaking areas. PREREQUISITE: FRN 101 or Equivalent.	10	12
2019-2020	903602	INTERMEDIATE FRENCH I	This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: FRN 102 or Equivalent.	10	12
2019-2020	903603	INTERMEDIATE FRENCH II	This continuation course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: FRN 201 or Equivalent.	10	12
2019-2020	903800	ORIENTATION AND TERMINOLOGY OF THE FIRE SERVICE	This course provides the student with basic information on the organization and function of paid and volunteer fire services, the role of the firefighter in the department, firefighter safety, the science of fire, and fire behavior. Specific course topics surveyed include: Orientation and Safety, Apparatus Familiarization, Fire Behavior, Personal Protective Equipment, Rescue, and Forcible Entry. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903801	INTRODUCTION TO THE FIRE SERVICE	This course teaches the many functions of the fire service, its importance and origins. It is designed to acquaint the student with the philosophy and history of the fire service and fire protection, the exacting loss of life and property, and the organization and function of public and private fire protection agencies. Emphasis is placed on the organization and function of federal, state, county, city, and private fire protection. CORE. PREREQUISITE: As required by program.	10	12
2019-2020	903802	CHEMISTRY FOR THE FIRE SERVICE	This is a survey of general chemistry as applied to the fire service. Emphasis is on fundamental facts, principles, theories, and applications. Course will include study of states of matter, energy, common substances, laws that govern the movement of gases, chemical formulas and structure, the study of atoms and molecules, chemical reactions related to firefighting, and hazardous materials. PREREQUISITE: As required by program.	10	12
2019-2020	903803	BUILDING CONSTRUCTION PRINCIPLES	This course highlights and assesses the problems and hazards to fire personnel when a building is attacked by fire or is under stress from other factors dealing with collapse. Emphasis is placed on construction principles: wood, ordinary, steel, concrete, and truss construction. CORE. PREREQUISITE: As required by program. PREREQUISITE: As required by program.	10	12
2019-2020	903804	NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS) I	This course introduces the student to the incident command system, its organizational structure, history, principles, and features and the National Incident Management System as a template for integration of public and private entities working together on emergency incidents. Tabletop exercises and scenarios will be used to give the student opportunity to apply the practical aspects of the incident command system and to demonstrate its relationship to the National Incident Management System. The course will also introduce students to the concepts and principles of the National Response Framework and the National Response Plan. Students will be given the opportunity to take online exams of certification for FEMA IS-100, IS-200, IS-700 and IS-800. This course will meet the NIMS baseline training requirements for the above mentioned courses. PREREQUISITE: As required by program.	10	12
2019-2020	903805	INTRODUCTION TO FIRE SUPPRESSION	This course is a study of organizational structure, fire suppression, fire suppression equipment, characteristics and behavior of fire, and fire hazard properties of ordinary materials. Emphasis is placed on the most common structural, vehicle, and urban interface fires. CORE. PREREQUISITE: As required by program.	10	12
2019-2020	903806	FIRE EXTINGUISHMENT PRINCIPLES	This is a study of water supplies and services, fire extinguishing chemicals, and the selection and use of extinguishing agents. Emphasis is placed on dry chemical, dry powder, foam and halogenated agents. PREREQUISITE: As required by program.	10	12
2019-2020	903807	INTRODUCTION TO FIRE PREVENTION/EDUCATION	This course is an introduction to the history and philosophy of fire prevention and the need for fire prevention education. Course includes fire prevention functions, development, and enforcement of fire prevention codes and regulations. It also includes the design and implementation of age appropriate education materials and benefits of community relations, support, and programs. PREREQUISITE: As required by program.	10	12
2019-2020	903808	HAZARD AWARENESS	This course includes the basic awareness of characteristics and behavior of solids, liquids, and gases when involved in fire. Emphasis is placed on characteristics, storage, and handling of various materials. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903809	HAZARDOUS MATERIALS AWARENESS AND OPERATIONS	This course is for emergency response personnel who may be first on the scene of a hazardous materials emergency. First responders at the awareness level are expected to recognize the presence of hazardous materials, protect themselves, secure the area, and call for trained personnel. At the operational level, the first responder uses the knowledge gained from the awareness level to act in a defensive posture to protect people, the environment, or property from the effects of an unplanned hazardous materials release. This course meets the requirements of the mandatory Awareness/Operational training in hazardous materials required by Title III - Emergency Planning and Community Right-to-Know Act of 1986 and NFPA 472, Standard on Professional Competence of Responders to Hazardous Materials Incidents current edition. PREREQUISITE: As required by program.	10	12
2019-2020	903810	FIRE HYDRAULICS AND WATER SUPPLY	This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water and fire protection and to apply hydraulic principles to analyze and resolve water supply problems. PREREQUISITE: As required by program.	10	12
2019-2020	903811	FIRE INSTRUCTOR I	A course that trains participants to teach a class from a prepared lesson plan. This course introduces the student to the concept of utilizing training aids to enhance his/her presentation, how to properly select these training aids, and how to use the training aid selected. Subject areas for this course include: Communication, Concepts of Learning, Methods of Teaching, Organizing the Class, Performance Evaluations, Testing and Evaluations, The Lesson Plan, Teaching Techniques, and the Use of Instructional Materials. The student will give several presentations during the week, all leading to the final fifteen minute graded presentation on the final day of class. PREREQUISITE: As required by program.	10	12
2019-2020	903812	FIRE INSTRUCTOR II	This course provides the Fire Instructor I with the next level of understanding for the training of personnel. This course trains the participants to perform job and task analysis, develop goals and objectives, and develop a lesson plan along with the coordinating training aids, and student tests and evaluation. During the course, the students are divided into groups, each of which is responsible for the development of a lesson plan to be presented to the class on the final day. PREREQUISITE: As required by program.	10	12
2019-2020	903813	FIRE INSTRUCTOR III	This course is intended for the instructor who is ready to assume a leadership role by moving into the upper management level of his/her department. This course consists of subjects designed to give the instructor more knowledge of management and supervision so that he/she can make basic evaluations of employee relations and assume a more proactive role in their department. If you bring your own laptop computer the required soft ware is Microsoft Word and PowerPoint. PREREQUISITE: As required by program.	10	12
2019-2020	903814	FIRE COMBAT TACTICS AND STRATEGY	This course is designed to offer the advanced firefighter or beginning fire officer the necessary information and related techniques to ensure effective fire scene operations. Topics of study include: Pre-fire Planning, Tactical Operations, and Scene Management Techniques. Students are given the opportunity to participate in group activities, discussions, and practical exercises to further enhance the learning experience and reinforce methodology discussed. PREREQUISITE: As required by program.	10	12
2019-2020	903815	TACTICAL CONSIDERATIONS FOR BUILDING CONSTRUCTION	This course includes a detailed study of known hazards of various construction types and tactical and operational considerations for safe fireground/incident operations. Emphasis is placed on firefighter safety and survival. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903816	RESCUE TECHNICIAN: ROPE	This course in rope rescue techniques includes a classroom review of equipment, knots and rope safety. Instruction events include: establishing need for rope rescue; uses and limitations of equipment; knotcraft ; safety aspects; anchoring systems; rescue rappelling; third man rescue; lowering systems and other aspects of rope rescue. PREREQUISITE: Certified Volunteer Firefighter or Certified Firefighter I or documented proof of Hazardous Materials Awareness & Operational training, Introduction to Technical Rescue, completion of EMT Basic course.	10	12
2019-2020	903817	RESCUE TECHNICIAN: CONFINED SPACE	This course is designed for both fire department personnel and private industry, this course provides responders with a comprehensive understanding of accidents involving a confined space. It teaches the responder how to recognize the hazard, access the victim, stabilize the victim and the proper procedures for retrieval. Practical and classroom sessions focus on the three primary hazards associated with confined space rescue: physical, atmospheric, and physiological. Realistic training evolutions using the latest in equipment and techniques ensure student retention of this material. PREREQUISITE: Certified Volunteer Firefighter or Certified Firefighter I or documented proof of Hazardous Materials Awareness & Operational training, Introduction to Technical Rescue, completion of EMT Basic course.	10	12
2019-2020	903818	RESCUE TECHNICIAN: TRENCH	A course designed to offer a combination of classroom and practical evolutions that allow the student to learn proper techniques to make open trenches and excavations safe for victim access and removal. The class is made realistic by actual sheeting and shoring operations of “unsafe” trenches, by using shoring equipment, and practice in developing skills in lifting practices within the trench environment. PREREQUISITE: Certified Volunteer Firefighter or Certified Firefighter I or documented proof of Hazardous Materials Awareness & Operational training, Introduction to Technical Rescue, completion of EMT Basic course.	10	12
2019-2020	903819	RESCUE TECHNICIAN: STRUCTURAL COLLAPSE	This course is designed to comply with NFPA 1006, Standard for Rescue Technician Professional Qualifications. It is an intense course which addresses heavy construction collapse and emphasizes the following discipline areas: breaching and breaking, lifting and moving, interior shoring, exterior shoring, and cutting and burning. PREREQUISITE: Certified Volunteer Firefighter or Certified Firefighter I or documented proof of Hazardous Materials Awareness & Operational training, Introduction to Technical Rescue, completion of EMT Basic course.	10	12
2019-2020	903820	RESCUE TECHNICIAN: SURFACE WATER	This course combines classroom and field instruction that includes, but is not limited to: water hydrology, preplanning water sites, safety, self-rescue, boat operations, in-water/shore-based rescues, rope techniques, highline rescues, and command of water incidents. Emphasis is placed on rope techniques and knots, and experience with both is highly recommended, but not required. PREREQUISITE: Certified Volunteer Firefighter or Certified Firefighter I or documented proof of Hazardous Materials Awareness & Operational training, Introduction to Technical Rescue, completion of EMT Basic course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903821	RESCUE TECHNICIAN: VEHICLE AND MACHINERY EXTRICATION	This course is designed to offer a combination of classroom and practical evolutions that allow the student to learn proper techniques to plan for a vehicle/machinery incident, establish fire protection, stabilize a vehicle or machine, isolate potential harmful energy sources, determine vehicle access and egress points, create access and egress openings for rescue, disentangle victims, remove a packaged victim to a designated safe area, and terminate a vehicle/machinery incident. PREREQUISITE: Certified Volunteer Firefighter or Certified Firefighter I or documented proof of Hazardous Materials Awareness & Operational training, Introduction to Technical Rescue, completion of EMT Basic course.	10	12
2019-2020	903822	FIRE INVESTIGATOR I	This course targets fire investigators, police officers, and company-level officers with a desire to learn more about determining the origin and cause of fire. Students wishing to attend this course should be prepared for an intense week of training and practical skills application. Topics covered include: Determining the Point of Origin, Burn Patterns, Evidence Collection and Analysis, Interviewing Techniques, and Court Procedure and Testifying. PREREQUISITE: As required by program.	10	12
2019-2020	903823	FIRE INSPECTOR I	A beginning level course for firefighters and other interested parties wishing to become more involved in the aspect of fire prevention and inspections. This course is primarily designed for those entering into fire service inspections and would be extremely useful to city inspectors and company level officers. Some of the topics covered in this course include: Building Construction, Decorative Materials and Furnishings, Fire Drills, Inspection Procedure, Code Enforcement, and Fire Alarm and Communications. PREREQUISITE: As required by program.	10	12
2019-2020	903824	FIRE INSPECTOR II	This course delves deeper into the interpretation of applicable codes and standards, covers the procedure involved in various types of inspections, and prepares the inspector for the plans review process. It is an advanced level course which covers a wide range of topics some of which are: Inspection Procedure, Building Construction, Occupancy Classification and Means of Egress, Fire Protection and Water Supply Systems, Plans Review, and the Storage of Hazardous Materials. PREREQUISITE: As required by program.	10	12
2019-2020	903825	FIRE INSPECTOR III	This course provides the participant with an in-depth view of the skills and duties required of the Fire Inspector III. The Fire Inspector III is an individual at the third and most advanced level of progression, who has met the job performance requirements specified in NFPA 1031, Standard for Professional Qualifications for Fire Inspector and Plans Examiner, current edition. The Fire Inspector III performs all types of fire inspections, plans review duties, and resolves complex code-related issues. PREREQUISITE: As required by program.	10	12
2019-2020	903826	THE ISO (AIA) STANDARDS	This course is a study of insurance theory and practice, the economics of the ISO grading system and a city's fire defense and insurance rates. Included is a detailed analysis of a city's water supply, fire department, fire alarm, fire prevention, and other grading methods of fire defense. PREREQUISITE: As required by program.	10	12
2019-2020	903827	PUBLIC FIRE AND LIFE SAFETY EDUCATOR	With the leading cause of death among children being unintentional injuries, the need for fire and life safety education has become evident in today's society. This course will train the student to coordinate and deliver existing comprehensive community fire and injury prevention programs designed to eliminate or mitigate situations that endanger lives, health, property, and the environment. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903828	HAZARDOUS MATERIALS TECHNICIAN	This course is designed for the student already certified at the Hazardous Materials Awareness and Operational level, this course develops the skills already learned and provides in-depth training in the mitigation of hazardous materials incidents. Through both classroom and practical training the student becomes familiar with health and safety issues, incident management, hazard and risk analysis, personal protective clothing, and decontamination. PREREQUISITE: As required by program.	10	12
2019-2020	903829	HAZARDOUS MATERIALS INCIDENT COMMANDER	This course supplies the incident commander with the knowledge and skills to perform their role as the person responsible for all decisions relating to the management of the incident. The candidate will learn about personal protective clothing, decontamination, branch functions with the Incident Management System, and the overall tactics to properly mitigate a hazardous materials incident. PREREQUISITE: As required by program.	10	12
2019-2020	903830	FIRE PROTECTION SYSTEMS	This course will teach students the design and operation of fire protection systems for commercial, residential, and special hazard environments. Students will understand the general principals of automatic sprinkler systems, heat and smoke control systems, standpipe systems, and fire detection/ alarm systems, and portable extinguishing systems. PREREQUISITE: As required by program.	10	12
2019-2020	903831	FIRE APPARATUS AND EQUIPMENT	This course is designed to familiarize the students with the basics of modern fire apparatus and related equipment. The course will include examination of pumpers, ladders, quints, hazardous materials vehicles, and other emergency response vehicles. Students will understand the basic operation and purpose of each vehicle and identify the purpose and use of equipment routinely carried by each vehicle. PREREQUISITE: As required by program.	10	12
2019-2020	903832	FIRE APPARATUS OPERATOR: PUMPER	This course is designed for the firefighter who wishes to advance to the next level of his/her profession. This course consists of six modules: Preventive Maintenance, Test and Inspections, Driving/Operating, Water Supply, Sprinklers and Standpipes, and Operations. Requires valid Drivers license, 16 hours of apparatus training that must be completed and documented by the student's fire department prior to attending class. PREREQUISITE: Certified Firefighter I or Certified Volunteer Firefighter	10	12
2019-2020	903833	FIRE APPARATUS OPERATOR: AERIAL	A course designed to provide the structural firefighter with the needed knowledge and skills to successfully operate aerial apparatus. A must for departments using aerial apparatus, this course covers topics such as: Types and Construction of Aerial Apparatus, Positioning Aerial Apparatus, Stabilizing Systems, and Maintenance and Testing. PREREQUISITE: As required by program.	10	12
2019-2020	903834	FIRE OFFICER I	The Fire Officer I curriculum identifies the requirements necessary to perform the duties of a first line supervisor. This course introduces the student to the basic concepts of management and supervision by concentration on such topics as: Organizational Structure, Communication Skills, Human Resource Management, Public Relations, Planning, Emergency Service Delivery, and Safety. PREREQUISITE: As required by program.	10	12
2019-2020	903835	FIRE OFFICER II	This course is structured for the fire officer who is ready to assume a leadership role by moving into the middle management level of his/her department. This course gives the officer more knowledge of management and supervision so that he/she can make basic evaluations of employee relations and assume a proactive role in their department. This course expands on the knowledge base attained in Fire Officer I by revisiting some of the same subjects and adding additional material. Some new subject areas include information management, government structure, and department budget planning and management. PREREQUISITE: As required by program. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	903836	FIRE OFFICER III	This course is specialized for the chief officer who is ready to advance into the upper management level of his/her department. This course consists of subjects designed to give the officer more knowledge of management and administration so that he/she can make basic evaluations of employee relations and assume a more proactive role in their department. This is a projects-based class. PREREQUISITE: As required by program.	10	12
2019-2020	903837	FIRE OFFICER IV	This course meets executive management level needs. The course is designed to meet the elements of NFPA 1021, Chapter 7. Fire Officer IV will emphasize management of fire protection services to include human resource management, multi-agency emergency service delivery with horizontal/vertical communication requirements and risk management. There will be group interactive exercises, which will reinforce class lectures. PREREQUISITE: As required by program.	10	12
2019-2020	903838	FIRE DEPARTMENT SAFETY OFFICER	The purpose of this course is to provide training for fire officers and firefighters on the role and responsibilities of the Incident Safety Officer, and to allow participants to practice some of the key skills needed for competency as an Incident Safety Officer. This training program is for Fire Officers who could be asked to assume the duties of the Incident Safety Officer either as a staff assignment or an on-scene appointment. The program is also appropriate for firefighters who will be working on-scene with the Incident Safety Officer and must understand and appreciate the scope and duties of the job. PREREQUISITE: Certified Fire Officer I	10	12
2019-2020	903840	LEGAL ASPECTS OF THE FIRE SERVICE	This course introduces students to the legal obligations and responsibilities within the fire service along with the limitations and restrictions placed on emergency responders. Students will discuss and apply federal and state laws, codes, regulations and standards relevant to the fire service. Both civil and criminal law will be addressed. CORE. PREREQUISITE: As required by program.	10	12
2019-2020	904000	WORLD REGIONAL GEOGRAPHY	This course surveys various countries and major regions of the world with respect to location and landscape, world importance, political status, population, type of economy, and its external and internal organization problems and potentials. PREREQUISITE: As required by program.	10	12
2019-2020	904001	PRINCIPLES OF PHYSICAL GEOGRAPHY I	Physical Geography I is the first in a two part sequence including topics such as weather and climate relative to the earth and relationships between the earth and sun. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	904002	PRINCIPLES OF PHYSICAL GEOGRAPHY II	Physical Geography II is the second in a two part sequence including topics such as landforms, landscapes, soil, and vegetation of the earth. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	904003	PRINCIPLES OF HUMAN GEOGRAPHY	This course surveys the science of location, with emphasis on human activities as it relates to agricultural and industrial activities, and cities as market and production centers. Emphasis will be placed on human networks. PREREQUISITE: GEO 100.	10	12
2019-2020	904004	GEOGRAPHY OF NORTH AMERICA	This course is a survey of the geography of the United States and Canada with special emphasis on land usage, mineral resources, industrial development, and social and economic adaptation of man and the natural environment. PREREQUISITE: GEO 100.	10	12
2019-2020	904005	PRINCIPLES OF PHYSICAL GEOGRAPHY	This course is an introduction to natural features of the earth. It concentrates on weather, climate, soil, and vegetation associations, on landforms and on the forces that have been active in shaping the earth's surface. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	904006	MAPS AND MAP INTERPRETATION	This course is a study of the various types of maps used, such as aerial/satellite photography, topographical, city and county utility usage, etc. Emphasis will be placed on developing computer generated GIS type maps. PREREQUISITE: Must have computer experience.	10	12
2019-2020	904200	INTRODUCTION TO GEOLOGY I	Introduction to Geology I is the first in a two part sequence dealing with the structure of the Earth including materials, internal and external processes, deformation, energy, and plate tectonics. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	904201	INTRODUCTION TO GEOLOGY II	Introduction to Geology II is the second in a two part sequence dealing with a historical perspective of the earth. Topics include items such as Geologic time, Earth's origin, evolution of continents and ocean basins, minerals, energy resources, planetary geology, and mountain building. Laboratory is required. PREREQUISITE: GLY 101 and/or as required by program.	10	12
2019-2020	904202	SURVEY OF GEOLOGY	This course provides an introductory survey of physical and historical geology. Laboratory is not required. PREREQUISITE: As required by program.	10	12
2019-2020	904400	INTRODUCTORY GERMAN I	This course provides an introduction to German. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of German-speaking areas. PREREQUISITE: As required by program.	10	12
2019-2020	904401	INTRODUCTORY GERMAN II	This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of German-speaking areas. PREREQUISITE: GRN 101 or Equivalent.	10	12
2019-2020	904402	INTERMEDIATE GERMAN I	This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: GRN 102 or Equivalent.	10	12
2019-2020	904403	INTERMEDIATE GERMAN II	This continuation course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: GRN 201 or Equivalent.	10	12
2019-2020	904600	PRINCIPLES OF NUTRITION	This course introduces students to the principles of nutrition and the role and functions of nutrients in man's food. Basic information concerning food selection and nutrition as a factor in health, ecology, and economy is included. Implications of nutrition for children may be stressed. PREREQUISITE: As required by program.	10	12
2019-2020	904601	PRINCIPLES OF BASIC DESIGN	This course surveys elements and principles of design and offers experience in creative and original design. Influences of various art forms are studied. PREREQUISITE: As required by program.	10	12
2019-2020	904602	HOME FURNISHINGS	This course considers selection and arrangement of home furnishings including furniture, floor coverings, linens, silver, dinnerware, and glassware. Offers experience in coordinating furnishings and accessories. PREREQUISITE: As required by program.	10	12
2019-2020	904603	CLOTHING AND TEXTILES	This course offers a comprehensive view of the past and present in textile development and includes new developments in fibers, yarns, weaves, finishes, and care of textiles. Both natural and synthetic fabrics are evaluated in terms of past utilization, current demands, and future possibilities in clothing and home use. PREREQUISITE: As required by program.	10	12
2019-2020	904604	INTRODUCTION TO CLOTHING CONSTRUCTION I	This course provides an introduction to basic techniques of clothing construction and the use of modern fabrics. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	904605	INTRODUCTION TO CLOTHING CONSTRUCTION II	This is the first in a two-course sequence which introduces the student to the basic techniques of clothing construction, including construction of clothing with modern fabrics and use of commercial patterns. PREREQUISITE: As required by program.	10	12
2019-2020	904606	INTRODUCTION TO CLOTHING CONSTRUCTION III	This is a continuation of HEC 132. PREREQUISITE: As required by program.	10	12
2019-2020	904607	TECHNIQUES IN STRETCH FABRIC I	This is the first in a two-course sequence which studies the design and construction of clothing in stretch fabrics as well as the adaptation of patterns of individualized design. PREREQUISITE: As required by program.	10	12
2019-2020	904608	TECHNIQUES OF STRETCH FABRIC II	This course is a continuation of HEC 134. PREREQUISITE: HEC 134.	10	12
2019-2020	904609	CLOTHING SELECTION	This course covers the social, psychological, and economic significance of clothing and its selection. PREREQUISITE: As required by program.	10	12
2019-2020	904610	TAILORING	This course covers tailoring and finishing ladies and men's clothing. PREREQUISITE: As required by program.	10	12
2019-2020	904611	CREATIVE DESIGN	This course introduces various hand and machine construction procedures. Activities include selected textile crafts for personal enrichment and home improvement. PREREQUISITE: As required by program.	10	12
2019-2020	904612	PRINCIPLES OF FOOD PREPARATION/LAB	This course is the study of basic principles underlying the fundamental process and standards of food preparation. Emphasis is on development of skill in preparation and in identifying factors affecting food quality. PREREQUISITE: As required by program.	10	12
2019-2020	904613	MEAL MANAGEMENT	This is a study of planning, preparation, and serving meals with an emphasis on principles of nutrition, aesthetic value, management of time, energy, materials and the food budget on various economic levels. PREREQUISITE: As required by program.	10	12
2019-2020	904614	ADVANCED CLOTHING	This course emphasizes design and construction of clothing with personal application to current fashionable trends. It also covers special alteration problems and construction techniques. PREREQUISITE: As required by program.	10	12
2019-2020	904615	MANAGEMENT IN FAMILY LIVING	This course covers goals and values in family living, basic principles of decision-making, and management of resources to achieve goals in family life. PREREQUISITE: As required by program.	10	12
2019-2020	904808	INTRODUCTION TO HEALTH OCCUPATIONS	This course is designed to give students a general introduction to health occupations. Major emphasis is on the specialization area of each student enrolled. PREREQUISITE: As required by program.	10	12
2019-2020	904809	DRUG EDUCATION	This course provides an examination of the drug scene with emphasis on the following: pharmacological, and sociological aspects of drug use; rehabilitation and treatment resources; and the law enforcement procedures. PREREQUISITE: As required by program.	10	12
2019-2020	904810	CPR RECERTIFICATION	In this course, instruction and review of up-dated information concerning Cardio-Pulmonary Resuscitation (CPR) is presented. The student must satisfactorily execute skills needed to meet requirements for recertification in Basic Cardiac Life Support (BCLS) as required by the American Heart Association. PREREQUISITE: As required by program.	10	12
2019-2020	905000	WESTERN CIVILIZATION I	This course is a survey of social, intellectual, economic, and political developments, which have molded the modern western world. This course covers the ancient and medieval periods and concludes in the era of the Renaissance and Reformation. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	905001	WESTERN CIVILIZATION II	This course is a continuation of HIS 101; it surveys development of the modern western world from the era of the Renaissance and Reformation to the present. PREREQUISITE: As required by program.	10	12
2019-2020	905002	WORLD HISTORY I	This course surveys social, intellectual, economic, and political developments which have molded the modern world. Focus is on both non-western and western civilizations from the prehistoric to the early modern era. PREREQUISITE: As required by program.	10	12
2019-2020	905003	WORLD HISTORY II	This course is a continuation of HIS 121; it covers world history, both western and non-western, from the early modern era to the present. PREREQUISITE: As required by program.	10	12
2019-2020	905004	UNITED STATES HISTORY I	This course surveys United States history during colonial, Revolutionary, early national and antebellum periods. It concludes with the Civil War and Reconstruction. PREREQUISITE: As required by program.	10	12
2019-2020	905005	UNITED STATES HISTORY II	This course is a continuation of HIS 201; it surveys United States history from the Reconstruction era to the present. PREREQUISITE: As required by program.	10	12
2019-2020	905006	AFRICAN-AMERICAN HISTORY	This course focuses on the experience of African-American people in the western hemisphere, particularly the United States. It surveys the period from the African origins of the slave trade during the period of exploration and colonization to the present. The course presents a comparison between the African experience in the United States and in Mexico and South America. PREREQUISITE: As required by program.	10	12
2019-2020	905007	ALABAMA HISTORY	This course surveys the development of the state of Alabama from pre-historic times to the present. The course presents material on the discovery, exploration, colonization, territorial period, ante-bellum Alabama, Reconstruction, and modern history. PREREQUISITE: As required by program.	10	12
2019-2020	905008	TECHNOLOGY AND CIVILIZATION I	This course introduces the interaction between technology and culture in world History from prehistoric times to 1750. While the course provides a basic survey of World History, primary emphasis is placed on technological change and its consequences. PREREQUISITE: As required by program.	10	12
2019-2020	905009	TECHNOLOGY AND CIVILIZATION II	This course is a continuation of HIS 111. It surveys technology and culture in World History from 1750 to the present. The course provides a basic survey of modern world history. The course places primary emphasis on technological change and its consequences. PREREQUISITE: As required by program.	10	12
2019-2020	905010	HISTORY OF WORLD RELIGIONS	This course presents a comparison of the major religions of the world from a historical perspective. Emphasis is placed on the origin, development, and social influence of Christianity, Judaism, Islam, Hinduism, Buddhism, and others. PREREQUISITE: As required by program.	10	12
2019-2020	905011	CONTEMPORARY STUDIES	This course provides a survey of contemporary problems and issues within a historical context. Topics might include nationalism, the rise of Islam as a powerful influence in the post-Cold War environment, environmental issues, and the impact of colonialism on modern, Third World Society. PREREQUISITE: As required by program.	10	12
2019-2020	905012	GENEALOGY I	Basic research methods in genealogy and family history for private, medical, and legal research projects. PREREQUISITE: As required by program.	10	12
2019-2020	905013	GENEALOGY II	Advanced studies in research in libraries and archives on national and international level. PREREQUISITE: As required by program.	10	12
2019-2020	905014	GENEALOGY III	Techniques on assembling, presenting, and publishing research. Although the emphasis will be on family history projects, the training will relate to all basic writing and publication. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	905015	SOUTHERN RESEARCH	Instruction in research techniques and resources for studies of the people of the Southern United States. PREREQUISITE: As required by program.	10	12
2019-2020	905200	INTRODUCTION TO HUMANITIES I	This is the first course in a two-semester sequence which offers the student an introduction to the humanities using selections from art, music, literature, history, and philosophy which relates to a unifying theme. PREREQUISITE: As required by program.	10	12
2019-2020	905201	INTRODUCTION TO HUMANITIES II	This is the second course in a two-semester sequence which offers the student an introduction to the humanities using selections from art, music, literature, history, and philosophy which relates to a unifying theme. PREREQUISITE: As required by program.	10	12
2019-2020	905202	MANKIND AND HIS ART	This course is an introduction to mankind's search for self-expression revealed in the music, art, and architecture of the western world from ancient times through the present day. PREREQUISITE: As required by program.	10	12
2019-2020	905203	PTK HONORS COURSE I	This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty and the course may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905204	PTK HONORS COURSE II	This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty and the course may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905205	PTK HONORS COURSE III	This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty and the course may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905206	HUMANITIES FORUM	In this course, credit is given for participation in lectures, concerts, and other events which have relevance to the study of the humanities. The course may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905207	HUMANITIES THROUGH THE ARTS	This course is an integrated survey of film, drama, music, literature, painting, sculpture, and architecture. PREREQUISITE: As required by program.	10	12
2019-2020	905208	INTERNATIONAL STUDIES IN (ADD NAME OF COUNTRY)	This course offers a survey of art, music, and culture of foreign countries. This may involve travel abroad and may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905400	CLASSICAL AND MEDIEVAL CONCEPTS OF MAN AND THE UNIVERSE	This course is an interdisciplinary study of the intellectual and cultural developments during the classical and medieval periods with emphasis on the development of literature (especially drama and poetry), philosophy, and art and how they reflect the cultural and historical climate. The course requires research techniques and a strong writing component. This course satisfies first semester freshman composition in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent; qualified for ENG 101 and MTH 112. Western Civilization recommended as a co-requisite.	10	12
2019-2020	905401	DISCOVERY: QUESTIONS, HYPOTHESES AND EXPERIMENTS	This course is an interdisciplinary study of classical problems in science, technology and mathematics. The origin of problems and the processes used in formulating possible solutions are stressed. Laboratory required. □ This course satisfies a physical or chemical laboratory science requirement in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent; eligibility for MTH 112 and ENG 101.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	905402	CONTEMPORARY PROBLEMS IN SCIENCE AND TECHNOLOGY	<p>☐ This course is an integrated study of the testing and implementation of modern theoretical principles in science, technology and mathematics. The role of science in identifying problems and proposing solutions to critical issues in society is stressed. Chemical, biological, physical, economic and political aspects of the environmental issue are the central focus for the course. Laboratory required. ☐</p> <p>This course satisfies a biological science requirement in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent; MTH 112 and IDH 106 or ENG 101. A chemistry course is recommended.</p>	10	12
2019-2020	905403	THE RENAISSANCE TO THE ROMANTIC REBELLION: CULTURE AND SOCIETY	<p>This course is an interdisciplinary approach to major intellectual, cultural and historical developments beginning with the Renaissance and continuing through the early 19th century. Emphasis is given to art and music. This course satisfies a humanities/fine arts requirement in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent; IDH 106 or ENG 101 and eligibility for MTH 112.</p>	10	12
2019-2020	905404	POLITICAL AND INTELLECTUAL FORCES IN THE 20TH CENTURY	<p>This course is an historical approach to an integrated study of the major ideologies and their influences on the 20th century. Included are the rise of nationalism, fascism, and communism and the development of the human rights movements. ☐</p> <p>This course satisfies a social science/history or political science requirement in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent; completion of IDH 106 or ENG 101 and 102. Completion of first semester western civilization is recommended.</p>	10	12
2019-2020	905405	CREATIVE FORCES IN THE MODERN WORLD	<p>This course is an interdisciplinary study of the major ideas in literature, philosophy, art, and music from the 1880's to the present. Emphasis is given to literature, and there is a strong writing component. This course satisfies a humanities/literature requirement in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent and IDH 106 or ENG 101 and 102; IDH 206 or second semester western civilization recommended.</p>	10	12
2019-2020	905406	INTERDISCIPLINARY SEMINAR: CURRENT TOPICS OF HUMAN CONCERN	<p>This interdisciplinary seminar provides an opportunity for the student to conduct an in depth investigation of selected topics related to human values and the influence of the sciences on those values. Classroom activities emphasize and help develop skill for public speaking. A seminar paper and oral presentation/defense are required to enhance the student's skills in analysis, critical thinking and communication. This course satisfies a humanities/ethics requirement in the General Education Core. PREREQUISITE: Admission to the Honors Program or consent and completion of at least one humanities-emphasis honors course and one science-emphasis honors course.</p>	10	12
2019-2020	905600	ETHICS	<p>This course introduces the student to the basic concepts, types and schools of moral theory, and illustrates how these may be applied to contemporary moral problems and ethical questions in academic, professional and social endeavors. PREREQUISITE: As required by program.</p>	10	12
2019-2020	905601	CONCEPTS OF SCIENCE	<p>This course integrates diverse scientific ideas to study a variety of interdisciplinary subjects in the areas of structure, energy and interactions of structure and energy over time. A goal of this course is to help the student gain an understanding of topics which stress the interactions between the sciences and the humanities and the impact of science on everyday life. PREREQUISITE: As required by program.</p>	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	905602	PROBLEM SOLVING AND DECISION MAKING	This course offers an integrated approach designed to increase the ability of the student to analyze problems, comprehend information, and make decisions by explicit training in higher-level thinking skills. PREREQUISITE: As required by program.	10	12
2019-2020	905603	INTEGRATED PRINCIPLES OF SCIENCE FOR CAREER PROGRAMS	This course is a study of key concepts from chemistry, biology and the physical sciences necessary to prepare students for subsequent courses leading to health related careers. Topics include measurements, collection and analysis of data, calculations and problem solving, atomic structure and chemical bonding emphasizing molecules of biological importance, organization of matter including living and nonliving systems, energy transformations and capture, and chemical reactions and equilibrium including pH and metabolic processes. Laboratory required. This course can serve as a prerequisite for BIO 118, 201 and 228. PREREQUISITE: As required by program.	10	12
2019-2020	905604	INTERDISCIPLINARY SEMINAR: CURRENT TOPICS IN HUMAN CONCERNS	This course is a seminar/discussion course designed to provide an opportunity for the student to conduct an in-depth investigation of selected topics. The particular topic selected will include issues from two or more disciplines and is determined by faculty and student interest. Classroom experiences emphasize and help develop skills in organizing and presenting information as well as explaining and defending ideas and conclusions. An oral seminar presentation is required. IDS 114 may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905605	FORUM	In this course, credit is given in recognition of attendance at academic lectures, concerts, and other events. IDS 115 requires attendance at designated events which are chosen from various lectures, cultural events and programs given at the college or in the community. IDS 115 may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905606	COLLEGE SCHOLARS BOWL WORKSHOP	This course offers the student preparation, practice, and participation in the College Scholars Bowl Program and competition. IDS 200 may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905607	ADVANCED SCHOLARS BOWL	This course is designed primarily to train students for Scholars' Bowl competition, alternately known as Brain Bowl, College Bowl or Quiz Bowl. This is an intercollegiate academic competition in which teams of four people compete by using buzzers and answering college-level questions for points. The course consists of practice rounds in which the students are familiarized with the equipment and questions that will be used in competition, as well as intensive study sessions and interactive discussions about a wide variety of academic endeavors. IDS 201 may be repeated for credit. PREREQUISITE: As required by program.	10	12
2019-2020	905608	GENEALOGY AND HISTORY	The emphasis in this course is upon family history in relation to major U.S. historical events and the use of primary records in documentation. The course is designed for the student who has little or no working knowledge of genealogy as it relates to history. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	905700	IRONWORKER TOOLS AND EQUIPMENT	<p>This course provides students with introduction to Ironworker trade, types of fastenings, tools and equipment required for the trade, basic structural Ironworker, and trade safety. This course will be conducted as theory and laboratory combination.</p> <p>This course is taught directly from the following NCCER instruction modules: Introduction to the trade 30101-11 Fastening 30104-11 Trade safety 30102-11 Tools and equipment of the trade 30103-11 Structural ironworker one 30109-11 Trade drawings one 30108-11</p>	10	12
2019-2020	905701	IRONWORKER TRADE PRACTICES	<p>This course introduces the participating students Introduction to Arc welding, Oxyfuel cutting, Plumbing aligning and guying in Ironworking, and Rigging equipment required in Ironworking. This course will be conducted as theory and laboratory combination.</p> <p>This course is taught directly from the following NCCER instruction modules: Introduction to arc welding 30112-11 Oxyfuel cutting 29102-09 Plumbing, aligning and guying 30110-11 Rigging equipment 30106-11</p>	10	12
2019-2020	905702	IRONWORKER FIELD WORK	<p>This course provides instruction and demonstration with Mobile Construction Cranes, Rigging Practices, Steel Bar Joist and Girders, Field Fabrication, and Steel Metal Decking. This course will be conducted as theory and laboratory combination.</p> <p>This course is taught directly from the following NCCER instruction modules: Mobile construction cranes 30105-11 Rigging practices 30107-11 Bar joists and girders 30113-11 Field fabrication 30115-11 Metal decking 30114-11</p>	10	12
2019-2020	905800	INTRODUCTORY JAPANESE I	This course provides an introduction to Japanese. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of Japanese-speaking areas. PREREQUISITE: As required by program.	10	12
2019-2020	905801	INTRODUCTORY JAPANESE II	This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of Japanese-speaking areas. PREREQUISITE: JAP 101 or Equivalent.	10	12
2019-2020	906000	INTRODUCTORY LATIN	This course provides an introduction to Latin. Topics include the development of basic communication skills and the acquisition of basic knowledge of the Roman cultures. PREREQUISITE: As required by program.	10	12
2019-2020	906001	INTRODUCTORY LATIN II	This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of Roman areas. PREREQUISITE: LAT 101 or equivalent.	10	12
2019-2020	906002	INTERMEDIATE LATIN	This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: LAT 102 or equivalent.	10	12
2019-2020	906003	INTERMEDIATE LATIN II	This continuation course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: LAT 201 or equivalent.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	906200	INTRODUCTION TO LIBRARY USE I	This course provides instruction in the use of the library. Emphasis is placed on the use of the library catalog, periodical indexes, bibliographic sources and general reference materials. NDC. PREREQUISITE: As required by program.	10	12
2019-2020	906201	INTRODUCTION TO LIBRARY USE II	This course provides instruction in the use of the library. Emphasis is placed on basic library skills, including use of library catalogs, reference sources, current information sources and indexes. NDC . PREREQUISITE: As required by program.	10	12
2019-2020	906202	INTRODUCTION TO LIBRARY USE III	This course builds on basic library skills offered in LBS 101, with particular emphasis on library resources involved in writing the research paper. NDC . PREREQUISITE: As required by program.	10	12
2019-2020	906400	INTRODUCTION TO LEADERSHIP: THEORY, CONTEXT AND PRACTICE	This course analyzes current and historical leadership styles, theories, and concepts with a focus on how leaders emerge and assume responsibility within a framework of social responsibility. PREREQUISITE: As required by program.	10	12
2019-2020	906401	VALUES AND ETHICS FOR STRATEGIC LEADERS	Values and Ethics for Strategic Leaders analyses the values and ethics for strategic leadership. Students will explore dimensions of leadership values and ethics in the context of theoretical and contemporary global issues facing the strategic leader. PREREQUISITE: LDR 101; ENG 101	10	12
2019-2020	906600	INTRODUCTION TO MASS COMMUNICATIONS	This course provides the student with general study of mass communications and journalism. This course includes theory, development, regulation, operation, and effects upon society. Upon completion of this class, students should be able to decide the field of mass communications on which to focus. PREREQUISITE: As required by program.	10	12
2019-2020	906601	WRITING FOR THE MASS MEDIA	Introduction to the technique, form, style, and content of writing for the mass media, with attention to the various formats used in journalism, telecommunications, advertising, public relations and Internet communications. PREREQUISITE: As required by program.	10	12
2019-2020	906602	STUDENT PUBLICATIONS I	These courses offer practical experience in journalism skills through working on the staff of student publications. PREREQUISITE: As required by program.	10	12
2019-2020	906603	STUDENT PUBLICATIONS II	These courses offer practical experience in journalism skills through working on the staff of student publications. PREREQUISITE: As required by program.	10	12
2019-2020	906604	STUDENT PUBLICATIONS III	These courses offer practical experience in journalism skills through working on the staff of student publications. PREREQUISITE: As required by program.	10	12
2019-2020	906605	STUDENT PUBLICATIONS IV	These courses offer practical experience in journalism skills through working on the staff of student publications. PREREQUISITE: As required by program.	10	12
2019-2020	906606	STUDENT PUBLICATIONS V	These courses offer practical experience in journalism skills through working on the staff of student publications. PREREQUISITE: As required by program.	10	12
2019-2020	906607	STUDENT PUBLICATIONS VI	These courses offer practical experience in journalism skills through working on the staff of student publications. PREREQUISITE: As required by program.	10	12
2019-2020	906608	INTRODUCTION TO JOURNALISM	A first writing course in journalism, this course features journalistic style, copy reading, story types, headlines, typography, and page make-up. PREREQUISITE: As required by program.	10	12
2019-2020	906609	NEWS REPORTING	This course includes instruction and practice in news gathering and newswriting techniques, including methodology, observation, interviews, and use of sources. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	906610	FEATURE WRITING	This course includes instruction and practice in writing feature articles for newspapers, magazines, and broadcast media. PREREQUISITE: As required by program.	10	12
2019-2020	906611	NEWS PHOTOGRAPHY	This course includes practice in camera techniques, film developing, and print making for newspapers and other publications. PREREQUISITE: As required by program.	10	12
2019-2020	906612	MASS MEDIA AND SOCIETY	This course traces the effects of media upon American moral, cultural, economic, and political trends. This course includes practice in camera techniques, film developing, and print making for newspapers and other publications. PREREQUISITE: As required by program.	10	12
2019-2020	906613	SOCIAL MEDIA STRATEGIES	This course focuses on how social media can be an effective tool in the workplace. Topics covered include how to collect, analyze and share data from social media; what tools can be used to collect data; advertising on social media and measuring its effectiveness; and making social media interactive. Upon completion of the course, students will have a better understanding of how to use social media in advertising and marketing. PREREQUISITE: As required by program.	10	12
2019-2020	906614	INTRODUCTION TO BROADCAST JOURNALISM	This course includes instruction and practice in basic skills and techniques of broadcasting, including announcing, producing, advertising, news reporting, and writing. PREREQUISITE: As required by program.	10	12
2019-2020	906615	SURVEY OF ADVERTISING	This course includes instruction in the structure and functions of the advertising agency and the elements of effective advertisement. PREREQUISITE: As required by program.	10	12
2019-2020	906616	INTRODUCTION TO PUBLIC RELATIONS	This course is an introduction to public relations techniques, including the grouping of publics, publication strategies, and preparation of publicity for various media. PREREQUISITE: As required by program.	10	12
2019-2020	906617	MASS COMMUNICATION PRACTICUM	This course provides practical experience in media through supervised part- or full-time employment with a newspaper, radio or television station, or public relations/advertising agency. PREREQUISITE: As required by program.	10	12
2019-2020	906800	INTRODUCTION TO MASS COMMUNICATIONS	This course provides the student with general study of mass communications and journalism. This course includes theory, development, regulation, operation, and effects upon society. Upon completion of this class, students should be able to decide the field of mass communications on which to focus. PREREQUISITE: As required by program.	10	12
2019-2020	906801	INTRODUCTION TO RECORDING TECHNOLOGY	This course is designed to acquaint the student with basic recording fundamentals. Emphasis is placed on microphone techniques, recording principals, musician and recording engineers' code. Upon completion, students should be able to do basic analog recordings. PREREQUISITE: As required by program.	10	12
2019-2020	906802	PUBLISHING FOR THE RECORDING INDUSTRY	This course is an introduction to the operation and functions of publishing in the recording industry. PREREQUISITE: As required by program.	10	12
2019-2020	906803	MASS COMMUNICATIONS PRACTICUM	This course provides practical experience in media through supervised part- or full-time employment with a newspaper, radio or television station, recording studio, or public relations/advertising agency. Upon completion, students should be able to receive employment based on demonstration of their skills in their subject area. PREREQUISITE: MIC 153 or instructor approval	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	906804	RECORDING STUDIO PRODUCTION	This course is designed to acquaint the student with the functional roles of the commercial recording studio. Emphasis will be placed on studio production projects, and include a study of contracts, managers, agents, recording rights, copyright laws, unions, publishers, and music companies. Upon completion, students should be able to produce studio quality recordings and have an understanding of the music industry. PREREQUISITE: MIC 153 or instructor approval	10	12
2019-2020	906805	COMPUTER LITERACY FOR THE MUSICIAN I	This course is designed to teach musicians how to use computers for music writing, ear training, theory, and sequencing. Topics include an introduction to MIDI, sequencing, Master Tracks Pro, Studio 3.1 and 4.0, Cakewalk and Musicator. Upon completion, students should have an understanding of MIDI, Charting and Sequencing on the computer. PREREQUISITE: As required by program.	10	12
2019-2020	906806	COMPUTER LITERACY FOR THE MUSICIAN II □	This course is designed to teach advanced computer sequencing techniques. Emphasis is placed on projects and the use of computer sequencing software and hardware. Students should be able to sequence and perform advanced editing using MIDI. PREREQUISITE: MIC 253 or instructor approval	10	12
2019-2020	906807	DIGITAL RECORDING	This course is designed to teach Digital Recording using hard disk wave recording techniques. Emphasis is placed on projects and the use of Digital Recording software and hardware. Upon completion, students should be able to do recordings on the “Special Audio Engine” and other software with masters of digital quality. PREREQUISITE: MIC 253 or instructor approval	10	12
2019-2020	906808	MUSIC NOTATION	This course is designed to teach students the music program for charting and writing music. Emphasis will be placed on the use of the software program “FINALE”. Upon completion, students should be able to chart and write music using industry standards. PREREQUISITE: MIC 253 or instructor approval	10	12
2019-2020	907000	VISUAL MERCHANDISING	This course introduces basic layout design and commercial display in retail and service organizations. Topics include an analysis of display as a visual merchandising medium and an examination of the principles and applications of display and design. Upon completion, students should be able to plan, build, and evaluate designs and displays. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program. PREREQUISITE: As required by program.	10	12
2019-2020	907001	FUNDAMENTALS OF SELLING	This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered. PREREQUISITE: As required by program.	10	12
2019-2020	907002	ADVERTISING AND SALES PROMOTION	This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, students should be able to demonstrate an understanding of the concepts covered through application. PREREQUISITE: As required by program.	10	12
2019-2020	907003	CONSUMER BEHAVIOR	This course is designed to describe consumer behavior as applied to the exchange processes involved in acquiring, consuming, and disposing of goods and services. Topics include an analysis of basic and environmental determinants of consumer behavior with emphasis on the decision-making process. Upon completion, students should be able to analyze concepts related to the study of the individual consumer. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907004	CUSTOMER SERVICE	This course stresses the importance of customer relations in the business world. Emphasis is placed on learning how to respond to complex customer requirements and to efficiently handle stressful situations. Upon completion, students should be able to demonstrate the ability to handle customer relations. PREREQUISITE: As required by program.	10	12
2019-2020	907005	MARKETING RESEARCH	This course provides information for decision making by providing guidance in developing, analyzing, and using data. Emphasis is placed on marketing research as a tool in decision making. Upon completion, students should be able to design and conduct a marketing research project and interpret the results. This course is a unique concentration requirement of the Marketing and Retailing concentration in the Business Administration program. PREREQUISITE: MKT 220.	10	12
2019-2020	907200	MILITARY SCIENCE I: COLLEGE SURVIVAL SKILLS	Instruction on enhancing reading, note taking, time management, writing, and memory skills. Role of the Army and its components, customs and traditions of the military, and the organization of the Army. Offered Fall term only. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907201	ADVENTURE TRAINING	□ Action oriented alternative to MS 101. Helps you meet everyday adversity and shows you how resourcefulness can help you survive an emergency, ensuring a safe and enriching adventure in the wilderness. Includes First Aid, map reading, orienteering, rifle marksmanship, water survival, repelling, and outdoor wilderness training. Fully substitutes for MS 101 in ROTC curriculum. Offered Fall term only. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907202	MILITARY SCIENCE I: CONTINUATION OF COLLEGE SURVIVAL SKILLS	Instruction on enhanced thinking, test-taking, and money and relationship skills. Review of MS 101 military skills for students who opted for MS 101a. First aid techniques, concepts of military leadership, and counseling. Offered spring term only. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907203	MILITARY SCIENCE II	A study of preventive medicine and first aid, marksmanship, water survival, rappelling, written and oral communications, leadership and related military topics. Prerequisite: MSC 102	10	12
2019-2020	907204	MILITARY SCIENCE II	A continuation of MSC 103. A study of preventive medicine and first aid, marksmanship, water survival, rappelling, written and oral communications, leadership and related military topics. Prerequisite: MSC 103	10	12
2019-2020	907205	FOUNDATIONS OF MILITARY SCIENCE I	This Course provides instruction in the development of life skills such as goal setting, time management, physical fitness and stress management as they related to leadership and the military profession and the manner in which these skills translate to the civilian sector. PREREQUISITE: None COREQUISITE: As required by program.	10	12
2019-2020	907206	FOUNDATIONS OF MILITARY SCIENCE II	This course provides instruction in leadership fundamentals such as problem-solving, listening, presentation skills, provisions of appropriate feedback, and effective writing skills. The course includes exploration of leadership attributes and core leader competencies in the context of practical, interactive exercises. PREREQUISITE: None COREQUISITE: As required by program.	10	12
2019-2020	907207	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907208	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907209	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907210	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907211	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907212	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907213	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907214	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907215	PHYSICAL TRAINING	Instruction on Army Physical Fitness Program. Students must sign health form and have physician approval. Equivalent to a college level PE course. Classes are conducted M.F. at 6:00 a.m. - 7:00 a.m. Offered Fall and Spring semester. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907216	FUNDAMENTALS OF MILITARY SCIENCE III	The course provides instruction in leadership fundamentals such as problem -solving, listening, presentation skills, provision of appropriate feedback, and effective writing skills. The course includes exploration of leadership attributes and core leader competencies in the context of practical, interactive exercise. PREREQUISITE: None COREQUISITE: As required by program.	10	12
2019-2020	907217	FOUNDATIONS OF MILITARY SCIENCE IV	This course emphasizes various leadership skills and provides instruction and practical exercises in communication skills, military writing, organization, decision-making, and continuation of leadership fundamentals that enhance performance in military and civilian leadership ositions. PREREQUISITE: None COREQUISITE: As required by program.	10	12
2019-2020	907218	GENERAL MILITARY SCIENCE	☐ Classroom study and hands on application in professional and college related skills. Emphasis on leadership, first aid, oral/written and interpersonal communication skills. Includes principles and techniques considered essential in reading military maps. Offered in Fall term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907219	GENERAL MILITARY SCIENCE	Analysis of values, ethics, equal opportunity as applied to a professional organization. Discussion of leadership, team building, total fitness, logistics management, safety management water survival, environmental and theories of quality management. Offered in Spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907220	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907221	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907222	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907223	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907224	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907225	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907226	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907227	RANGERS	Develop leadership qualities of ROTC cadets through small unit tactics, self-discipline, self confidence, and resourcefulness. Cadets will be required to participate in physical training. Enrolled cadets may compete in a two-day competitive competition against 27 other varsity Ranger Challenge teams in the South East Invitation Conference. Offered fall and spring term. PREREQUISITE: As required by program. COREQUISITE: As required by program.	10	12
2019-2020	907400	ELEMENTS OF SUPERVISION	This course is an introduction to the fundamentals of supervision. Topics include the functions of management, responsibilities of the supervisor, management-employee relations, organizational structure, project management and employee training, and rating. PREREQUISITE: As required by program.	10	12
2019-2020	907401	HISTORY OF COSTUME	Costume development from prehistoric to modern times. Study of cultural forces in relation to evolution of costume.	10	12
2019-2020	907402	HUMAN RESOURCE MANAGEMENT	This course provides an overview of the responsibilities of the supervisor of human resources. Topics include the selection , placement, testing, orientation, training, rating, promotion, and transfer of employees. PREREQUISITE: As required by program.	10	12
2019-2020	907403	LABOR ECONOMICS-LABOR RELATIONS	This is a basic management course in the field of labor. Topics include psychological and institutional factors, economic factors, and economic analysis in areas of labor-management relations. PREREQUISITE: As required by program.	10	12
2019-2020	907404	OCCUPATIONAL HYGIENE I	Basic principles of occupational hygiene pertaining to the control of occupational environment health hazards, includes methods for identifying and classifying contaminants; for recognition and evaluation of health hazards; and for sampling and analytical determination of chemical, biological, and economic stresses. PREREQUISITE: As required by program.	10	12
2019-2020	907405	OCCUPATIONAL HYGIENE II	A continuation of the basic principles of occupational hygiene. PREREQUISITE: MST 204.	10	12
2019-2020	907406	PHYSICAL SUPPLY AND DISTRIBUTION MANAGEMENT	This course provides a comprehensive study of current logistics systems. Topics include organizing and analyzing logistics information, forecasting potential logistical problems, and making recommendations to coordinate actions to resolve problems. PREREQUISITE: As required by program.	10	12
2019-2020	907407	OFFICE MANAGEMENT AND CORRESPONDENCE	This course provides an overview of the workings of a business office including the communications function. Topics include the office organization and layout; selection, and training, and promotion of personnel; supervision functions; oral and written communications. PREREQUISITE: As required by program.	10	12
2019-2020	907408	SMALL BUSINESS MANAGEMENT	This course provides an overview of the creation and operation of a small business. Topics include buying a franchise, starting a business, identifying capital resources, understanding markets, managing customer credit, managing accounting systems, budgeting systems, inventory systems, purchasing insurance, and the importance of appropriate legal counsel. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907409	INDUSTRIAL MANAGEMENT	This course provides an overview of management in an industrial setting. Topics includes operations analysis, research and development, physical facilities, production planning, productivity improvement, product flow, quality control, jobs and wages, and employee motivation. PREREQUISITE: As required by program.	10	12
2019-2020	907410	SPECIAL STUDIES IN PERSONAL ADMINISTRATION	Under faculty supervision , this course provides a student the opportunity to develop a knowledge of current human resource management practices. Emphasis is placed on independent study of current publications approved by the instructor. PREREQUISITE: MST 201.	10	12
2019-2020	907411	SPECIAL STUDIES IN INDUSTRIAL MANAGEMENT	Under faculty supervision , this course provides a student the opportunity to develop a knowledge of current industrial management practices. Emphasis is placed on independent study of current publications approved by the instructor. PREREQUISITE: MST 217.	10	12
2019-2020	907412	SPECIAL STUDIES IN BUSINESS MANAGEMENT	Under faculty supervision , this course provides a student the opportunity to develop a knowledge of current business management practices. Emphasis is placed on independent study of current publications approved by the instructor. PREREQUISITE: MST 215.	10	12
2019-2020	907413	MANAGEMENT SEMINAR	This course offers study of current problems, issues, and development in the areas of management. Students are guided through individual projects and outside research related to their areas of concentration and/or employment training. PREREQUISITE: 9 Credit hours of MST courses.	10	12
2019-2020	907414	LABOR LAW	This course provides an overview of the laws related to labor and employment. Topics include the study of the various federal and state statutes, including significant court decisions, relating to the rights and obligations of employers, employees, and unions. PREREQUISITE: MST 202.	10	12
2019-2020	907415	LABOR ARBITRATION PRACTICES AND PROCEDURES	This course provides an overview of the history of arbitration practices and procedures. Topics include various federal and state statutes, significant court decisions, and government regulations pertaining to the practices and procedures of labor arbitration. PREREQUISITE: MST 202, 235.	10	12
2019-2020	907419	FASHION RETAILING	Course includes an overview of the apparel industry including history, production process, costing and imports. Emphasis is given to store organization and career positions in retailing. PREREQUISITE: As required by program.	10	12
2019-2020	907420	MANAGEMENT WORKSHOP I	This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12
2019-2020	907421	MANAGEMENT WORKSHOP II	This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12
2019-2020	907422	MANAGEMENT WORKSHOP III	This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12
2019-2020	907423	MANAGEMENT WORKSHOP IV	This course is a part of a series of workshops wherein current topics of interest are presented. They are offered upon demand and can be tailored for the needs of individuals, business and industry. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907600	FINITE MATHEMATICS	This course is intended to give an overview of topics in finite mathematics together with their applications, and is taken primarily by students who are not majoring in science, engineering, commerce, or mathematics (i.e., students who are not required to take Calculus). This course will draw on and significantly enhance the student's arithmetic and algebraic skills. The course includes sets, counting, permutations, combinations, basic probability (including Baye's Theorem), and introduction to statistics (including work with Binomial Distributions and Normal Distributions), matrices and their applications to Markov chains and decision theory. Additional topics may include symbolic logic, linear models, linear programming, the simplex method and applications. PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative to this is that the student should successfully pass with a C or higher (S if taken as pass/fail) Intermediate College Algebra.	10	12
2019-2020	907601	PRECALCULUS ALGEBRA	This course emphasizes the algebra of functions - including polynomial, rational, exponential, and logarithmic functions. The course also covers systems of equations and inequalities, quadratic inequalities, and the binomial theorem. Additional topics may include matrices, Cramer's Rule, and mathematical induction. PREREQUISITE: All core mathematics courses in Alabama must have as a minimum prerequisite high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative to this is that the student should successfully pass with C or higher (S if taken as pass/fail) Intermediate College Algebra.	10	12
2019-2020	907602	PRECALCULUS TRIGONOMETRY	This course includes the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations. The course also covers vectors, complex numbers, DeMoivre's Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems. PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a C or higher (S if taken as pass/fail) MTH 112.	10	12
2019-2020	907603	PRECALCULUS ALGEBRA & TRIGONOMETRY	This course is a one semester combination of Precalculus Algebra and Precalculus Trigonometry intended for superior students. The course covers the following topics: the algebra of functions (including polynomial, rational, exponential, and logarithmic functions), systems of equations and inequalities, quadratic inequalities, and the binomial theorem, as well as the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations, vectors, complex numbers, DeMoivre's Theorem, and polar coordinates. PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a C or higher (S if taken as pass/fail) MTH 100 and receive permission from the department chairperson.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907604	CALCULUS AND ITS APPLICATIONS	This course is intended to give a broad overview of calculus and is taken primarily by students majoring in Commerce and Business Administration. It includes differentiation and integration of algebraic, exponential, and logarithmic functions and applications to business and economics. The course should include functions of several variables, partial derivatives (including applications), Lagrange Multipliers, L'Hopital's Rule, and multiple integration (including applications). PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a C or higher MTH 112.	10	12
2019-2020	907605	CALCULUS I	This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering, and mathematics. Topics include the limit of a function; the derivative of algebraic, trigonometric, exponential, and logarithmic functions; and the definite integral and its basic applications to area problems. Applications of the derivative are covered in detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using calculus. PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a C or higher MTH 113 or MTH 115.	10	12
2019-2020	907606	CALCULUS II	This is the second of three courses in the basic calculus sequence. Topics include vectors in the plane and in space, lines and planes in space, applications of integration (such as volume, arc length, work and average value), techniques of integration, infinite series, polar coordinates, and parametric equations. PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a C or higher MTH 125.	10	12
2019-2020	907607	SPECIAL TOPICS IN MATHEMATICS I	This course, which may be repeated for credit so long as the topics differ, permits a student to study with an instructor a topic in mathematics. Emphasis is placed on selected topics in mathematics of special interest to the student and instructor. Topics and coursework are based on Principles and Standards for School Mathematics from the National Council of Teachers of Mathematics. This is a non-transferable course. Students will demonstrate competency on selected topics by performance on projects, daily work, classroom exams, and a comprehensive final. PREREQUISITE: As required by program.	10	12
2019-2020	907608	CALCULUS III	This is the third of three courses in the basic calculus sequence. Topics include vector functions, functions of two or more variables, partial derivatives (including applications), quadric surfaces, multiple integration, and vector calculus (including Green's Theorem, Curl and Divergence, surface integrals, and Stokes' Theorem. PREREQUISITE: MTH 126.	10	12
2019-2020	907609	LINEAR ALGEBRA	This course introduces the basic theory of linear equations and matrices, real vector spaces, bases and dimension, linear transformations and matrices, determinants, eigenvalues and eigenvectors, inner product spaces, and the diagonalization of symmetric matrices. Additional topics may include quadratic forms and the use of matrix methods to solve systems of linear differential equations. PREREQUISITE: MTH 126.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907610	APPLIED DIFFERENTIAL EQUATIONS I	An introduction to numerical methods, qualitative behavior of first order differential equations, techniques for solving separable and linear equations analytically, and applications to various models (e.g. populations, motion, chemical mixtures, etc.); techniques for solving higher order linear differential equations with constant coefficients (general theory, undetermined coefficients, reduction of order and the method of variation of parameters), with emphasis on interpreting the behavior of the solutions, and applications to physical models whose governing equations are of higher order; the Laplace transform as a tool for the solution of initial value problems whose inhomogeneous terms are discontinuous. COREQUISITE: MTH 227.	10	12
2019-2020	907611	INTERMEDIATE COLLEGE ALGEBRA	This course provides a study of algebraic techniques such as linear equations and inequalities, quadratic equations, systems of equations, and operations with exponents and radicals. Functions and relations are introduced and graphed with special emphasis on linear and quadratic functions. This course does not apply toward the general core requirement for mathematics. PREREQUISITE: MTH 092 or MTH 098 or appropriate mathematics placement score.	10	12
2019-2020	907612	MATH FOR THE ELEMENTARY TEACHER I	This course is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include logic, sets and functions, operations and properties of whole numbers and integers including number theory; use of manipulatives by teachers to demonstrate abstract concepts; and by students while learning these abstract concepts as emphasized in the class. Upon completion, students are required to demonstrate proficiency in each topic studied as well as to learn teaching techniques that are grade level and subject matter appropriate, and test for mathematical proficiency and the learning of teaching concepts. PREREQUISITE: As required by program.	10	12
2019-2020	907613	MATH FOR THE ELEMENTARY TEACHER II	This course is the second of a three-course sequence and is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more proficient at performing basic arithmetic operations. Topics include numeration skills with fractions, decimals and percentages, elementary concepts of probability and statistics, and analytic geometry concepts associated with linear equations and inequalities. The use of manipulatives and calculators in the teaching and learning process is stressed. Upon completion, students will test for mathematical proficiency and the learning of teaching concepts. Students also will demonstrate an appropriate teaching technique by preparing a lesson and teaching it to the class for their final exam grade. PREREQUISITE: MTH 231.	10	12
2019-2020	907614	DISCRETE MATHEMATICS	This course provides an introduction to combinatorics and graph theory. Topics include sets, logic, relations and functions, mathematical induction, algorithmic processes, recurrence relations, counting techniques, asymptotic growth, Boolean algebra, graphs, and network algorithms. COREQUISITE: MTH 126-Calculus II.	10	12
2019-2020	907615	SPECIAL TOPICS IN MATHEMATICS II	This course, which may be repeated for credit so long as the topics differ, permits a student to study with an instructor a topic in mathematics. Emphasis is placed on selected topics in mathematics of special interest to the student and instructor. Topics and coursework are based on Principles and Standards for School Mathematics from the National Council of Teachers of Mathematics. This is a non-transferable course. Students will demonstrate competency on selected topics by performance on projects, daily work, classroom exams, and a comprehensive final. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907616	ELEMENTARY STATISTICS	This course provides an introduction to methods of statistics, including the following topics: sampling, frequency distributions, measures of central tendency, graphic representation, reliability, hypothesis testing, confidence intervals, analysis, regression, estimation, and applications. Probability, permutations, combinations, binomial theorem, random variables, and distributions may be included. PREREQUISITE: MTH 100 or appropriate mathematics placement score.	10	12
2019-2020	907617	PROBABILITY AND STATISTICS CONCEPTS	This course provides an examination of the theory and applications of probability and statistics based on topics from calculus. It includes probability, sample spaces, random variables, probability distributions, estimation, confidence intervals, hypothesis testing, experimental analysis, moments and moment-generating functions, and computer-assisted data analysis using appropriate computer software. COREQUISITE: MTH 126-Calculus II.	10	12
2019-2020	907618	MATHEMATICS APPLICATIONS LABORATORY	This course is designed to offer specific mathematics application to students in applied science programs. Individual student needs are determined by Work Keys assessments. Instruction is offered through an open lab/Web-based methods using Plato, WINN or other programs aligned with Work Keys. PREREQUISITE: MTH 100 or MTH 117.	10	12
2019-2020	907619	INTRODUCTION TO TECHNICAL MATHEMATICS	This course is designed for the student in technology needing simple arithmetic, algebraic, and right triangle trigonometric skills. PREREQUISITE: MTH 092 or MTH 098 or appropriate mathematics placement score.	10	12
2019-2020	907620	PLANE TRIGONOMETRY	This course emphasizes such topics as the solution of triangles, vectors, geometric concepts and complex numbers. PREREQUISITE: MTH 100.	10	12
2019-2020	907621	MATHEMATICAL APPLICATIONS	This course provides practical applications of mathematics and includes selected topics from consumer math and algebra. Some topics included are integers, percent, interest, ratio and proportion, metric system, probability, linear equations, and problem solving. PREREQUISITE: MTH 090 or appropriate mathematics placement score.	10	12
2019-2020	907622	COLLEGE MATHEMATICS WITH APPLICATIONS	This is an applied course designed to meet mathematics requirements for some students in certificate and two-year terminal programs. Emphasis is placed on percent, interest, proportions, functions, graphing, systems of equations, logarithmic and exponential functions, quadratics, and linear programming as used to solve applied problems in selected programs of study. This course does not meet the general core requirement for mathematics. PREREQUISITE: MTH 092 or MTH 098 or appropriate placement score.	10	12
2019-2020	907623	TECHNICAL MATHEMATICS	This course includes selected topics from algebra, analytic geometry, and trigonometry with emphasis on applications to engineering technology. Topics may include variation, determinants, conic sections, exponential and logarithmic functions, and solutions of right triangles. This course does not apply toward the general core requirement for mathematics. PREREQUISITE: MTH 100 or appropriate mathematics placement score.	10	12
2019-2020	907624	MATHEMATICS IN GENERAL EDUCATION I	This course is designed for general education and for all students in education programs except those who will concentrate on science or mathematics. Emphasis is on the structure of the number system from the integers to the real numbers, logic, numeration systems, prime numbers, basic concepts of algebra, elementary probability and statistics, graphs, informal geometry, and the metric system. This course does not apply toward the general core requirement for mathematics. PREREQUISITE: As required by program.	10	12
2019-2020	907625	MATHEMATICS IN GENERAL EDUCATION II	This course is a continuation of MTH 131. This course does not apply toward the general core requirement for mathematics. PREREQUISITE: MTH 131 or appropriate mathematics placement score.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907626	MATHEMATICS COMPUTER PROGRAMMING	This course is a balance between C++ programming, Windows programming, and applications to engineering and mathematics. This course is designed primarily for pre-engineering students as a first course in computer programming and applications. This course does not meet the general core requirement for mathematics. PREREQUISITE: MTH 125.	10	12
2019-2020	907627	MEDICAL DOSAGE CALCULATION	This course explains mathematical applications to the following dosage calculations: oral dosages, injectable drugs, intravenous fluids, insulin, heparin, pediatric dosages, geriatric dosages, and electrolyte solutions. This course does not apply toward the general core requirement for mathematics. PREREQUISITE: MTH 090 or suitable placement score.	10	12
2019-2020	907628	PRE-CALCULUS ALGEBRA LABORATORY	This course is designed to accompany a Pre-Calculus Algebra Course. It provides a laboratory setting in which students receive individualized instruction, work on laboratory exercises and group projects. Emphasis will be on applications of mathematics. COREQUISITE: Registration in MTH 112 Pre-calculus Algebra.	10	12
2019-2020	907629	PRE-CALCULUS TRIGONOMETRY LABORATORY	This course is designed to accompany a Pre-Calculus Trigonometry Course. It provides a laboratory setting in which students receive individualized instruction, work on laboratory exercises and group projects. Emphasis will be on applications of mathematics. COREQUISITE: Registration in MTH 113 Pre-Calculus Trigonometry.	10	12
2019-2020	907630	PRE-CALCULUS ALGEBRA & TRIGONOMETRY LABORATORY	This course is designed to accompany a Pre-Calculus and Trigonometry Course. It provides a laboratory setting in which students receive individualized instruction, work on laboratory exercises and group projects. Emphasis will be on applications of mathematics. COREQUISITE: Registration in MTH 115 Pre-Calculus Algebra & Trigonometry.	10	12
2019-2020	907631	CALCULUS I LABORATORY	This course is designed to accompany a Calculus I Course. It provides a laboratory setting in which students receive individualized instruction, work on laboratory exercises and group projects. Emphasis will be on applications of mathematics. COREQUISITE: Registration in MTH 125 Calculus I.	10	12
2019-2020	907632	CALCULUS II LABORATORY	This course is designed to accompany a Calculus II Course. It provides a laboratory setting in which students receive individualized instruction, work on laboratory exercises and group projects. Emphasis will be on applications of mathematics. COREQUISITE: Registration in MTH 125 Calculus II.	10	12
2019-2020	907633	MATH FOR THE ELEMENTARY	This course is the third of a three-course sequence and is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include concepts for plane and solid geometry. Emphasis is on linear measurement as well as fundamental concepts of geometry dealing with lines, angles, triangles, polygons, and solids. The metric system is used for measurement through the course. The use of manipulatives and calculators in the teaching and learning process is emphasized. Upon completion, students will be given exams to test for mathematical proficiency and the learning of teaching concepts. Additionally, students will demonstrate teaching techniques by preparing a lesson and teaching it to the class for their final exam grade. PREREQUISITE: MTH 232.	10	12
2019-2020	907634	MATHEMATICS OF FINANCE	This course explores mathematical applications relevant to business practices. Types covered include simple and compound interest, credits, trade and bank discounts, annuities, amortization, depreciation, stocks and bonds, insurance, capitalization, and perpetuities. This course does not meet the general core requirement for mathematics. PREREQUISITE: MTH 092 or MTH 098 or appropriate mathematics placement score.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907635	CALCULUS III LABORATORY	This course is designed to accompany a Calculus III Course. It provides a laboratory setting in which students receive individualized instruction, work on laboratory exercises and group projects. Emphasis will be on applications of mathematics. COREREQUISITE: Registration in MTH 227 Calculus III.	10	12
2019-2020	907636	INTRODUCTORY MATHEMATICS I	This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include business and industry related arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve practical problems in their specific occupational areas of study. NCA . PREREQUISITE: Satisfactory placement score.	10	12
2019-2020	907637	INTRODUCTORY MATHEMATICS II	This course introduces the concepts of right triangle trigonometry and geometry with emphasis on applications to problem solving in the workplace. Topics includes the basic definitions and properties of plane and solid geometry, area and volume, and right triangle trigonometry with substantial hands-on-focus in shop, laboratory, or marketplace settings. Upon completion, students should be able to solve applied problems both independently and collaboratively using technology where appropriate. NCA . PREREQUISITE: MTH 101 and/or as required by program.	10	12
2019-2020	907638	MATH FOR NURSING	This course is a comprehensive review of arithmetic with basic algebra and introduces calculations of solutions and systems of measurement to meet practical nursing program requirement. Topics include a review of basic arithmetic, metric system conversions, ration and proportion, and conversions among and between the metric, apothecaries, and household unit systems and intravenous infusion rates as well as ethical, cultural, and legal aspects of accurate mathematic skills. Upon completion, students will demonstrate proficiency in calculating drug dosages and IV infusion rates for adults and children. NCD. PREREQUISITE: Satisfactory placement score.	10	12
2019-2020	907800	CHORUS I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907801	CHORUS II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907802	CHORUS III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907803	CHORUS IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907804	VOCAL ENSEMBLE I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907805	VOCAL ENSEMBLE II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907806	VOCAL ENSEMBLE III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907807	VOCAL ENSEMBLE IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907808	JAZZ/SHOW CHOIR I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907809	JAZZ/SHOW CHOIR I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907810	JAZZ/SHOW CHOIR I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907811	JAZZ/SHOW CHOIR I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907812	CONCERT BAND I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907813	CONCERT BAND II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907814	CONCERT BAND III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907815	CONCERT BAND IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907816	INSTRUMENTAL ENSEMBLE I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907817	INSTRUMENTAL ENSEMBLE II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907818	INSTRUMENTAL ENSEMBLE III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907819	INSTRUMENTAL ENSEMBLE IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907820	ORCHESTRA I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble.	10	12
2019-2020	907821	ORCHESTRA II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907822	ORCHESTRA III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907823	ORCHESTRA IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907824	JAZZ/SHOW BAND I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907825	JAZZ/SHOW BAND II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907826	JAZZ/SHOW BAND III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907827	JAZZ/SHOW BAND IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907828	MARCHING BAND I	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907829	MARCHING BAND II	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907830	MARCHING BAND III	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907831	MARCHING BAND IV	This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. PREREQUISITE: NONE	10	12
2019-2020	907832	CLASS PIANO I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907833	CLASS PIANO II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907834	CLASS PIANO III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907835	CLASS PIANO IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907836	CLASS VOICE I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907837	CLASS VOICE II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907838	CLASS VOICE III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907839	CLASS VOICE IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907840	CLASS STRINGS I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907841	CLASS STRINGS II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907842	CLASS STRINGS III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907843	CLASS STRINGS IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907844	CLASS WOODWINDS I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907845	CLASS WOODWINDS II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907846	CLASS WOODWINDS III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907847	CLASS WOODWINDS IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907848	CLASS BRASS I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907849	CLASS BRASS II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907850	CLASS BRASS III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907851	CLASS BRASS IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907852	CLASS PERCUSSION I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907853	CLASS PERCUSSION II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907854	CLASS PERCUSSION III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907855	CLASS PERCUSSION IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907856	CLASS FRETTED INSTRUMENTS I	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907857	CLASS FRETTED INSTRUMENTS II	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907858	CLASS FRETTED INSTRUMENTS III	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907859	CLASS FRETTED INSTRUMENTS IV	Group instruction is available in voice, piano, strings, woodwinds, brass, percussion and fretted instruments for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals. PREREQUISITE: As required by program.	10	12
2019-2020	907860	MUSIC WORKSHOP I	This course is a seminar clinic in advanced rehearsal/performance techniques. Emphasis is placed on intensive rehearsal techniques required for advanced or specialized performance groups. Upon completion, students should be able to effectively participate in performances presented by this type of ensemble. PREREQUISITE: As required by program.	10	12
2019-2020	907861	MUSIC WORKSHOP II	This course is a seminar clinic in advanced rehearsal/performance techniques. Emphasis is placed on intensive rehearsal techniques required for advanced or specialized performance groups. Upon completion, students should be able to effectively participate in performances presented by this type of ensemble. PREREQUISITE: As required by program.	10	12
2019-2020	907862	MUSIC WORKSHOP III	This course is a seminar clinic in advanced rehearsal/performance techniques. Emphasis is placed on intensive rehearsal techniques required for advanced or specialized performance groups. Upon completion, students should be able to effectively participate in performances presented by this type of ensemble. PREREQUISITE: As required by program.	10	12
2019-2020	907863	MUSIC WORKSHOP IV	This course is a seminar clinic in advanced rehearsal/performance techniques. Emphasis is placed on intensive rehearsal techniques required for advanced or specialized performance groups. Upon completion, students should be able to effectively participate in performances presented by this type of ensemble. PREREQUISITE: As required by program.	10	12
2019-2020	907864	MUSICAL THEATRE WORKSHOP I	This course includes the study of musical theatre history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performances of scenes or complete works of musical theatre. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	907865	MUSICAL THEATRE WORKSHOP II	This course includes the study of musical theatre history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performances of scenes or complete works of musical theatre. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	907866	MUSICAL THEATRE WORKSHOP III	This course includes the study of musical theatre history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performances of scenes or complete works of musical theatre. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	907867	MUSICAL THEATRE WORKSHOP IV	This course includes the study of musical theatre history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performances of scenes or complete works of musical theatre. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	907868	OPERA WORKSHOP I	This course includes the study of opera history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performance of scenes or complete works of opera. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	907869	OPERA WORKSHOP II	This course includes the study of opera history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performance of scenes or complete works of opera. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	907870	OPERA WORKSHOP III	This course includes the study of opera history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performance of scenes or complete works of opera. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	907871	OPERA WORKSHOP IV	This course includes the study of opera history, styles, performance and technical production. Emphasis is placed on the supervised study, preparation, production and performance of scenes or complete works of opera. Upon completion, students should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role. PREREQUISITE: As required by program.	10	12
2019-2020	908000	PRIVATE PIANO I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908001	PRIVATE PIANO II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908002	PRIVATE PIANO III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908003	PRIVATE PIANO IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908004	PRIVATE ORGAN I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908005	PRIVATE ORGAN II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908006	PRIVATE ORGAN III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908007	PRIVATE ORGAN IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908008	PRIVATE HARPSICHORD I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908009	PRIVATE HARPSICHORD II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908010	PRIVATE HARPSICHORD III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908011	PRIVATE HARPSICHORD IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908012	PRIVATE VOICE I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908013	PRIVATE VOICE II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908014	PRIVATE VOICE III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908015	PRIVATE VOICE IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908016	PRIVATE VIOLIN I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908017	PRIVATE VIOLIN II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908018	PRIVATE VIOLIN III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908019	PRIVATE VIOLIN IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908020	PRIVATE VIOLA I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908021	PRIVATE VIOLA II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908022	PRIVATE VIOLA III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908023	PRIVATE VIOLA IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908024	PRIVATE CELLO I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908025	PRIVATE CELLO II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908026	PRIVATE CELLO III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908027	PRIVATE CELLO IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908028	PRIVATE DOUBLE BASS I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908029	PRIVATE DOUBLE BASS II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908030	PRIVATE DOUBLE BASS III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908031	PRIVATE DOUBLE BASS IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908032	PRIVATE HARP I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908033	PRIVATE HARP II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908034	PRIVATE HARP III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908035	PRIVATE HARP IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908036	PRIVATE GUITAR I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908037	PRIVATE GUITAR II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908038	PRIVATE GUITAR III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908039	PRIVATE GUITAR IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908040	PRIVATE FRETTED INSTRUMENTS (OTHER THAN GUITAR) I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908041	PRIVATE FRETTED INSTRUMENTS (OTHER THAN GUITAR) II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908042	PRIVATE FRETTED INSTRUMENTS (OTHER THAN GUITAR) III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908043	PRIVATE FRETTED INSTRUMENTS (OTHER THAN GUITAR) IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908044	PRIVATE FLUTE I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908045	PRIVATE FLUTE II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908046	PRIVATE FLUTE III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908047	PRIVATE FLUTE IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908048	PRIVATE CLARINET I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908049	PRIVATE CLARINET II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908050	PRIVATE CLARINET III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908051	PRIVATE CLARINET IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908052	PRIVATE SAXOPHONE I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908053	PRIVATE SAXOPHONE II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908054	PRIVATE SAXOPHONE III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908055	PRIVATE SAXOPHONE IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908056	PRIVATE OBOE I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908057	PRIVATE OBOE II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908058	PRIVATE OBOE III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908059	PRIVATE OBOE IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908060	PRIVATE BASSOON I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908061	PRIVATE BASSOON II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908062	PRIVATE BASSOON III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908063	PRIVATE BASSOON IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908064	PRIVATE TRUMPET I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908065	PRIVATE TRUMPET II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908066	PRIVATE TRUMPET III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908067	PRIVATE TRUMPET IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908068	PRIVATE FRENCH HORN I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908069	PRIVATE FRENCH HORN II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908070	PRIVATE FRENCH HORN III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908071	PRIVATE FRENCH HORN IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908072	PRIVATE MELLOPHONE I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908073	PRIVATE MELLOPHONE II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908074	PRIVATE MELLOPHONE III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908075	PRIVATE MELLOPHONE IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908076	PRIVATE TROMBONE I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908077	PRIVATE TROMBONE II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908078	PRIVATE TROMBONE III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908079	PRIVATE TROMBONE IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908080	PRIVATE EUPHONIUM I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908081	PRIVATE EUPHONIUM II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908082	PRIVATE EUPHONIUM III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908083	PRIVATE EUPHONIUM IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908084	PRIVATE TUBA I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908085	PRIVATE TUBA II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908086	PRIVATE TUBA III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908087	PRIVATE TUBA IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908088	PRIVATE PERCUSSION I	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908089	PRIVATE PERCUSSION II	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908090	PRIVATE PERCUSSION III	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12
2019-2020	908091	PRIVATE PERCUSSION IV	Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion and fretted instruments. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908200	MUSIC APPRECIATION	This course is designed for non-music majors and requires no previous musical experience. It is a survey course that incorporates several modes of instruction including lecture, guided listening, and similar experiences involving music. The course will cover a minimum of three (3) stylistic periods, provide a multi-cultural perspective, and include both vocal and instrumental genres. Upon completion, students should be able to demonstrate a knowledge of music fundamentals, the aesthetic/stylistic characteristics of historical periods, and an aural perception of style and structure in music. PREREQUISITE: As required by program.	10	12
2019-2020	908201	MUSIC THEORY I	This course introduces the student to the diatonic harmonic practices in the Common Practice Period. Topics include fundamental musical materials (rhythm, pitch, scales, intervals, diatonic harmonies) and an introduction to the principles of voice leading and harmonic progression. Upon completion, students should be able to demonstrate a basic competency using diatonic harmony through analysis, writing, sight singing, dictation and keyboard skills. PREREQUISITE: MUS 110 or suitable placement score or permission of the instructor. (COREQUISITE: MUS 113, if ear training lab is a separate course.)	10	12
2019-2020	908202	MUSIC THEORY II	This course completes the study of diatonic harmonic practices in the Common Practice Period and introduces simple musical forms. Topics include principles of voice leading used in three- and four-part triadic harmony and diatonic seventh chords, non-chord tones, cadences, phrases and periods. Upon completion, students should be able to demonstrate competence using diatonic harmony through analysis, writing, sight singing, dictation and keyboard skills. PREREQUISITE: MUS 111 (COREQUISITE: MUS 114, if ear training lab is a separate course.)	10	12
2019-2020	908203	MUSIC THEORY LAB 1	This course provides the practical application of basic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include intervals, simple triads, diatonic stepwise melodies, basic rhythmic patterns in simple and compound meter and four-part triadic progressions in root position. Upon completion, students should be able to write, sing and play intervals, scales, basic rhythmic patterns, diatonic stepwise melodies, simple triads and short four-part progressions in root position. PREREQUISITE: MUS 110 or suitable placement score or permission of the instructor. (COREQUISITE: MUS 111, if ear training lab is a separate course.)	10	12
2019-2020	908204	MUSIC THEORY LAB II	This course continues the practical application of diatonic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include intervals, scales, diatonic melodies with triadic arpeggiations, more complex rhythmic patterns in simple and compound meter and four-part diatonic progressions in all inversions. Upon completion, students should be able to write, sing and play all intervals, rhythmic patterns employing syncopations and beat divisions, diatonic melodies and four-part diatonic progressions. PREREQUISITE: MUS 113. (COREQUISITE: MUS 112, if ear training lab is a separate course.)	10	12
2019-2020	908205	CONVOCAATION	This course (required for music majors/minors each semester) is designed to expose students to a variety of repertory styles and to give students an opportunity to practice individual performance skills. Emphasis is placed on exposure to performances and lectures by guest artists, faculty or students, and on personal performance(s) in class each semester. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908206	AFRO-AMERICAN MUSIC	This course provides a study of music composed by black Americans. Topics include the origin and development of musical styles expressed in Negro spirituals, calypso, gospel music and jazz. Upon completion, students should be able to demonstrate a knowledge, understanding and an aural perception of the stylistic characteristics of Afro-American music. PREREQUISITE: As required by program.	10	12
2019-2020	908207	SURVEY OF POPULAR MUSIC	This course provides a study of the origins, development and existing styles of popular music. Topics include ragtime, jazz, rhythm and blues, rock, country and western, folk and world music. Upon completion, students should be able to demonstrate a knowledge, understanding and an aural perception of the stylistic characteristics of popular music. PREREQUISITE: As required by program.	10	12
2019-2020	908208	JAZZ: AN INTRODUCTION AND HISTORY	This course provides a study of the origins, development and existing styles of jazz. Topics include the blues, piano styles, Dixieland, swing, bebop, third stream, cool, free jazz and jazz/rock fusion. Upon completion, students should be able to demonstrate a knowledge, understanding and an aural perception of the different style characteristics of jazz music. PREREQUISITE: As required by program.	10	12
2019-2020	908209	BASIC MUSICIANSHIP	This course is designed to provide rudimentary music knowledge and skills for the student with a limited music background. Topics include a study of notation, rhythm, scales, keys, intervals, chords and basic sight singing and ear training skills. Upon completion, students should be able to read and understand musical scores and demonstrate basic sight singing and ear training skills for rhythm, melody and harmony. PREREQUISITE: MUS 099 or suitable placement score or permission of the instructor.	10	12
2019-2020	908210	FUNDAMENTALS OF MUSIC	This course is designed to teach the basic fundamentals of music and develop usable musical skills for the classroom teacher. Topics include rhythmic notation, simple and compound meters, pitch notation, correct singing techniques, phrases, keyboard awareness, key signatures, scales, intervals and harmony using I, IV, and V with a chordal instrument. Upon completion, students should be able to sing a song, harmonize a simple tune, demonstrate rhythmic patterns and identify musical concepts through written documentation. PREREQUISITE: As required by program.	10	12
2019-2020	908211	COMPUTER APPLICATIONS IN MUSIC	This course introduces the history and use of computer applications in music. Topics include an introduction to computer skills, MIDI and the application of notation and sequencing software programs (i.e. Finale, Performer). Upon completion, students should be able to demonstrate basic competency in the use of computers in music. PREREQUISITE: As required by program.	10	12
2019-2020	908212	DICTION FOR SINGERS	This course introduces the basic rules of diction in Italian, French and German for singers. Emphasis is placed on the use of the International Phonetic Alphabet. Upon completion, students should be able to sing art songs in Italian, French and German with correct diction. PREREQUISITE: As required by program.	10	12
2019-2020	908213	INTRODUCTION TO CHURCH MUSIC	This course provides an overview of church music as a career choice, and includes the organization and operation of a graded church choir program. Topics include an introduction to conducting, rehearsal techniques, administrative skills, and may include a supervised practicum field experience. Upon completion, students should be able to select, prepare, teach and conduct a simple anthem for a graded church choir and demonstrate a knowledge of church music administration through written documentation. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908214	SERVICE PLAYING	This course provides individual or group instruction in skills relevant to playing a keyboard instrument in religious services. Topics include hymn playing, accompanying soloists and choirs, selecting appropriate music for the different denominational services and improvisation. Upon completion, students should be able to demonstrate a knowledge and understanding of the role of the church pianist or organist through written documentation and by performing that role for a religious service. PREREQUISITE: As required by program.	10	12
2019-2020	908215	PIANO PEDAGOGY SEMINAR	This course is a seminar, workshop or master class conducted by guest artists or faculty for piano teachers and students. Emphasis is placed on piano pedagogy topics such as teaching methods, piano literature and performance practice. Upon completion, students should be able to demonstrate improved knowledge and skills related to piano pedagogy through written documentation and/or performance. PREREQUISITE: As required by program.	10	12
2019-2020	908216	SURVEY OF MUSIC LITERATURE I	This is the first of a two-course sequence which surveys instrumental and vocal music to acquaint the student with musical compositions, composers and styles from ancient times through the Baroque. Emphasis is placed on the development of analytical listening skills. Upon completion, students should be able to recognize the music, identify the major composers and describe the styles of the various musical periods. PREREQUISITE: As required by program.	10	12
2019-2020	908217	SURVEY OF MUSIC LITERATURE II	This is the second of a two-course sequence which surveys instrumental and vocal music to acquaint the student with musical compositions, composers and styles from the Classical Period to the present. Emphasis is placed on the development of analytical listening skills. Upon completion, students should be able to recognize the music, identify the major composers and describe the styles of the various musical periods. PREREQUISITE: As required by program.	10	12
2019-2020	908218	MUSIC HISTORY I	This course provides a study of the development of music from ancient times through the Baroque Period. Emphasis is placed on period style characteristics, representative composers and their works, and socio-cultural influences. Upon completion, students should be able to demonstrate knowledge, understanding and an aural perception of period style characteristics, forms, composers and representative works. PREREQUISITE: As required by program.	10	12
2019-2020	908219	MUSIC HISTORY II	This course provides a study of the development of music from the Classical Period to the present. Emphasis is placed on period style characteristics, representative composers and their works, and socio-cultural influences. Upon completion, students should be able to demonstrate a knowledge, understanding and an aural perception of period style characteristics, forms, composers and representative works. PREREQUISITE: As required by program.	10	12
2019-2020	908220	MUSIC THEORY III	This course introduces the student to the chromatic harmonic practices in the Common Practice Period. Topics include secondary functions, modulatory techniques, and binary and ternary forms. Upon completion, students should be able to demonstrate competence using chromatic harmony through analysis, writing, sight singing, dictation and keyboard skills. PREREQUISITE: MUS 112. (COREQUISITE: MUS 213, if ear training lab is a separate course.)	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908221	MUSIC THEORY IV	This course completes the study of chromatic harmonic practices in the Common Practice Period and introduces the student to twentieth-century practices. Topics include the Neapolitan and augmented sixth chords, sonata form, late nineteenth-century tonal harmony and twentieth-century practices and forms. Upon completion, students should be able to demonstrate competence using chromatic harmony and basic twentieth century techniques through analysis, writing, sight singing, dictation and keyboard skills. PREREQUISITE: MUS 211. (COREQUISITE: MUS 214, if ear training lab is a separate course.)	10	12
2019-2020	908222	MUSIC THEORY LAB III	This course provides the practical application of chromatic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include melodies with simple modulations, complex rhythms in simple and compound meter, and secondary function chords. Upon completion, students should be able to write, sing and play modulating melodies, rhythmic patterns with beat subdivisions and four-part chromatic harmony. PREREQUISITE: MUS 114. (COREQUISITE: MUS 211, if ear training lab is a separate course.)	10	12
2019-2020	908223	MUSIC THEORY LAB IV	This course provides the practical application of chromatic musical materials and simple twentieth-century practices through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include chromatic and atonal melodies; complex rhythmic patterns in simple, compound and asymmetric meters; chromatic chords and twentieth-century harmony. Upon completion, students should be able to write, sing and play chromatic and atonal melodies, complex rhythms and meters, four-part chromatic harmony and simple twentieth-century chord structures. PREREQUISITE: MUS 213. (COREQUISITE: MUS 212, if ear training lab is a separate course.)	10	12
2019-2020	908224	COMPOSITION I	This course introduces the basic techniques and applications of musical composition. Emphasis is placed on creativity and original thought processes in music. Upon completion, students should be able to create an original musical composition. PREREQUISITE: MUS 112 and/or as required by program.	10	12
2019-2020	908225	COMPOSITION II	This course provides more advanced instruction in musical composition techniques. Emphasis is placed on musical thought processes which result in musical composition. Upon completion, students should be able to create, notate correctly and stage performances of original musical compositions. PREREQUISITE: MUS 215.	10	12
2019-2020	908226	JAZZ IMPROVISATION	This course is designed to prepare the student with the theoretical background and improvisational techniques utilized in jazz performance. Emphasis is placed on the understanding of chord structures, chord progressions, scale structures and melodic design. Upon completion, students should be able to perform an improvisational solo with a jazz ensemble. PREREQUISITE: As required by program.	10	12
2019-2020	908227	INTRODUCTION TO MUSIC EDUCATION	This course provides an overview of music education as a career choice. Topics include discussion of teaching materials and methods, legal considerations, certification, professional organizations, activities and may include a supervised practicum field experience. Upon completion, students should be able to demonstrate a knowledge and understanding of music education as a career through written documentation. PREREQUISITE: As required by program.	10	12
2019-2020	908228	INTRODUCTION TO CONDUCTING	This course introduces the fundamentals of conducting choral and/or instrumental ensembles. Topics include a study of simple and compound meters, score reading and techniques for conducting effective rehearsals. Upon completion, students should be able to prepare and conduct a choral and/or instrumental score in a rehearsal or performance setting. PREREQUISITE: MUS 110 and/or as required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908229	ORGANIZATION OF THE CHURCH MUSIC PROGRAM	This course is designed to explore administrative models of a comprehensive church music program. Topics include leadership, administrative structure, music personnel, facilities, equipment, vestments, music library, budgeting, planning, vocal and instrumental ensembles and scheduling for a music program. Upon completion, students should be able to demonstrate how to plan, coordinate and administer a comprehensive church music program. PREREQUISITE: As required by program.	10	12
2019-2020	908230	CHURCH MUSIC LITERATURE	This course provides an historic survey of traditional church music from the 17th century to the present and introduces contemporary Christian styles. Topics include criteria for choosing appropriate music for graded church choirs at easy, medium and advanced levels of difficulty, and a survey of publishing resources and cataloging systems. Upon completion, students should be able to demonstrate a knowledge and understanding of church music literature. PREREQUISITE: MUS 170 and/or as required by program.	10	12
2019-2020	908231	THE CHILDREN'S CHOIR	This course is designed to provide techniques for working with the child's voice in a choral setting. Topics include working with children's voices, rehearsal techniques, selecting literature, vestments and organizing a graded choir program. Upon completion, students should be able to demonstrate how to plan, coordinate and administer a graded choir program in a church. PREREQUISITE: As required by program.	10	12
2019-2020	908232	LITERATURE FOR THE CHURCH SOLOIST	This course is designed to acquaint the singer with literature appropriate for use in services of worship. Topics include voice classification, study of the literature for general and seasonal use, and resources for publications and materials. Upon completion, students should be able to demonstrate a knowledge and understanding of repertoire suitable for use throughout the church year, sources of solo literature and vocal classification. PREREQUISITE: As required by program.	10	12
2019-2020	908233	CHURCH MUSIC PRACTICUM	This course is designed to provide supervised experience in the various areas of church music through directed study, practice, observation and other supervised experiences. Emphasis is placed on designing, implementing and documenting a practicum project related to a particular area of church music. Upon completion, students should be able to produce documentation that demonstrates the scope of the project. PREREQUISITE: As required by program.	10	12
2019-2020	908234	INDIVIDUAL PIANO PEDAGOGY	This course provides a study of the philosophy, methods, materials and business aspects of individual piano instruction. Topics include a survey of teaching materials and software; methods for teaching technique, repertoire, style and interpretation; and business skills for private piano teachers. Upon completion, students should be able to demonstrate a knowledge and understanding of pedagogical techniques, materials and business practices of private piano instruction. PREREQUISITE: As required by program.	10	12
2019-2020	908235	GROUP PIANO PEDAGOGY	This course provides a study of the philosophy, methods, materials and business aspects of group piano instruction. Topics include a survey of teaching materials, equipment and software; methods of group piano instruction; and pertinent business skills. Upon completion, students should be able to demonstrate a knowledge and understanding of pedagogical techniques, materials and business practices of group piano instruction. PREREQUISITE: As required by program.	10	12
2019-2020	908236	PIANO PEDAGOGY PRACTICUM	This course provides a supervised piano teaching experience in an individual and a group setting. Emphasis is placed on developing and implementing weekly lesson plans for individual students and a piano class. Upon completion, students should be able to demonstrate effective teaching techniques for individual and group instruction through supervised teaching experiences. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908237	INTRODUCTION TO COMMERCIAL MUSIC	This course provides an introduction to the commercial music industry and the types of careers in commercial music. Topics include music publishing, recording, contracts, agents and managers, copyrights, unions, music companies and dealers. Upon completion, students should be able to demonstrate a basic knowledge and understanding of the different components of the commercial music industry and the various career options. PREREQUISITE: As required by program.	10	12
2019-2020	908238	MUSICAL ACOUSTICS	This course is designed to acquaint the student with the nature of musical acoustics and the science of sound. Topics include terminology, symbols, the nature and transmission of sound, vibration, frequency, pitch, intervals, harmonies, resonance, consonance and dissonance. Upon completion, students should be able to demonstrate an understanding of the basic skills and concepts through the successful presentation of an individual project in musical acoustics. PREREQUISITE: As required by program.	10	12
2019-2020	908239	SONG WRITING	This course provides an introduction to song writing and marketing techniques. Topics include lyric writing, song structures, preparing a lead sheet, notation, rhythmic and melodic dictation, key signatures, basic chord structures, recording, basic copyright laws and publishing. Upon completion, students should be able to compose a song, prepare a lead sheet and demo tape, apply for a copyright and market a song. PREREQUISITE: MUS 112 and/or as required by program.	10	12
2019-2020	908240	RECORDING TECHNIQUES	This course provides an introduction to the terminology, equipment and methods of commercial recording, and includes an internship in an operational recording studio. Emphasis is placed on recording techniques used in the modern recording studio, various aspects of sound and acoustics, and identifying recording problems in various musical examples. Upon completion, students should be able to demonstrate a mastery of basic recording techniques by producing, engineering and re-mixing a multitrack recording. PREREQUISITE: MUS 112 and/or as required by program.	10	12
2019-2020	908600	ORIENTATION TO COLLEGE	This course aids new students in their transition to the institution; exposes new students to the broad educational opportunities of the institution; and integrates new students into the life of the institution. PREREQUISITE: As required by program.	10	12
2019-2020	908601	ORIENTATION (MASTER STUDENT)	This course helps students develop practical knowledge and skills toward a successful college experience, both academically and personally. Topics include: time, reading, memory, notes, tests, diversity, thinking, writing, relationships, health, and career planning. PREREQUISITE: As required by program.	10	12
2019-2020	908602	WORKKEYS ASSESSMENT AND ADVISEMENT	This course provides entering students with an introduction to the ACT WorkKeys System. Students will complete WorkKeys assessments in the areas of Applied Mathematics, Reading for Information, and Locating Information. Upon completion, students will be advised of their performance on the assessments and of the methods available to improve their individual performance levels. PREREQUISITE: As required by program.	10	12
2019-2020	908603	ORIENTATION AND STUDENT SUCCESS	This course is designed to orient students to the college experience by providing them with tools needed for academic and personal success. Topics include: developing an internal focus of control, time management and organizational skills, critical and creative thinking strategies, personal and professional maturity, and effective study skills for college and beyond. PREREQUISITE: None	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	908604	STUDENT SURVIVAL SKILLS	This course is designed to provide students with information to improve their success as students in a college environment. Specific topics include stress management, time management, goal setting, improving listening and note taking skills, identification of optimum learning styles, reading skills, study skills, problem solving and decision making, test taking strategies, and financial management. PREREQUISITE: None	10	12
2019-2020	908605	ORIENTATION (MASTER STUDENT)	This course helps students develop practical knowledge and skills toward a successful college experience, both academically and personally. Topics include: time, reading, memory, notes, tests, diversity, thinking, writing, relationships, health, and career planning. PREREQUISITE: As required by program.	10	12
2019-2020	908606	ORIENTATION (MASTER STUDENT)	This course is a continuation of ORI 108. It is designed to help students develop practical knowledge and skills toward a successful college experience, both academically and personally. Topics include: time, reading, memory, notes, tests, diversity, thinking, writing, relationships, health, and career planning. PREREQUISITE: As required by program.	10	12
2019-2020	908607	FRESHMAN SEMINAR	This course is designed to provide students the opportunity to develop and enhance their technology skills, explore careers and majors, and develop a personalized program of study that will map out their educational and career goals through a portfolio. Primary focus will be placed on: Meeting and working with the student's advisor to develop a strong plan of study; enhancing their skills in locating and gathering information; engaging in critical thinking through reflective journals in their portfolio. PREREQUISITE: As required by program.	10	12
2019-2020	908800	ORIENTATION FOR CAREER STUDENTS	This course is designed to introduce the beginning student to college. College policies and regulations are covered as well as stress management, resume preparation, job application procedures, and employment interviewing techniques. PREREQUISITE: As required by program.	10	12
2019-2020	908801	ORIENTATION AND STUDENT SUCCESS	This course is designed to orient students to the college experience by providing them with tools needed for academic and personal success. Topics include: developing an internal focus of control, time management and organizational skills, critical and creative thinking strategies, personal and professional maturity, and effective study skills for college and beyond. PREREQUISITE: None	10	12
2019-2020	908802	WORKING STUDENTS SUCCESS	This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies, procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, communication, child care provisions, college support system, managing work and study conflicts, and advisor contact process. Upon course completion, students should be able to function effectively within the college environment to meet their educational and work objectives. PREREQUISITE: As required by program.	10	12
2019-2020	909200	INTRODUCTION TO PHILOSOPHY	This course is an introduction to the basic concepts of philosophy. The literary and conceptual approach of the course is balanced with emphasis on approaches to ethical decision making. The student should have an understanding of major philosophical ideas in an historical survey from the early Greeks to the modern era. PREREQUISITE: As required by program.	10	12
2019-2020	909201	ETHICS AND SOCIETY	This course involves the study of ethical issues which confront individuals in the course of their daily lives. The focus is on the fundamental questions of right and wrong, of human rights, and of conflicting obligations. The student should be able to understand and be prepared to make decisions in life regarding ethical issues. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	909202	LOGIC	This course is designed to help students assess information and arguments. The focus of the course is on logic and reasoning. The student should be able to understand how inferences are drawn, be able to recognize ambiguities and logical and illogical reasoning. PREREQUISITE: As required by program.	10	12
2019-2020	909203	ETHICS IN THE WORKPLACE	This course is a survey of the ethical principals involved in the workplace with emphasis on common modern problems. The perspectives of workers, supervisors, management, owners, and consumers are considered. The student should have an understanding of the ethical issues unique to the work environment. PREREQUISITE: As required by program.	10	12
2019-2020	909204	ETHICS AND THE HEALTH SCIENCES	This course is a study of ethical issues related to the health sciences such as contraception, abortion, and eugenics; human experimentation; truth in drugs and medicine; death and dying; and other health related issues. The student should be able to clarify relevant ethical considerations and have a philosophical basis for decisions on right and wrong, good and bad, rights and responsibilities. PREREQUISITE: As required by program.	10	12
2019-2020	909400	PHYSICAL SCIENCE	This course provides the non-technical student with an introduction to the basic principles of geology, oceanography, meterology, and Astronomy. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	909401	PHYSICAL SCIENCE II	This course provides the non-technical student with an introduction to the basic principle of chemistry and physics. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	909402	ENVIRONMENTAL SCIENCE	This course is an interdisciplinary course designed to give the non-science major an introductory survey of the environment. The environment will be studied with an emphasis on topics such as air, soil, water, wild life, forestry and solid waste pollution. Laboratory is required and will emphasize field studies and experimentation. PREREQUISITE: As required by program.	10	12
2019-2020	909403	APPLIED PHYSICAL SCIENCE I	This course introduces the general principles of physics and chemistry. Topics include measurement, motion, Newton's laws of motion, momentum, energy, work, power, heat, thermodynamics, waves, sound, light, electricity, magnetism, and chemical principles. Upon completion, students should be able to demonstrate an understanding of the physical environment and be able to apply the scientific principles to observations experienced. PREREQUISITE: As required by program.	10	12
2019-2020	909404	APPLIED PHYSICAL SCIENCE II	This course introduces the principles of nuclear energy, modern physics, geology, oceanography, meteorology, and astronomy. Topics include nuclear chemistry, relativity, composition of the earth, geologic processes and time, ocean currents and tides, eroding beaches, climate, weather, atmospheric influences, and the solar system. Upon completion, students should be able to apply the scientific principles to observations experienced. PREREQUISITE: As required by program.	10	12
2019-2020	909405	INTRODUCTION TO METEOROLOGY	This course is an introductory survey of meteorology emphasizing the hydrologic cycle, cloud formation, weather maps, forecasting, and wind systems. Local weather systems will be given detailed study. Laboratory is required. PREREQUISITE: As required by program.	10	12
2019-2020	909600	GENERAL PHYSICS I -TRIG BASED	This course is designed to cover general physics at a level that assures previous exposure to college algebra, basic trigonometry. Specific topics include mechanics, properties of matter and energy, thermodynamics, and periodic motion. A laboratory is required. PREREQUISITE: MTH 113 or equivalent.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	909601	GENERAL PHYSICS II-TRIG BASED	This course is designed to cover general physics using college algebra and basic trigonometry. Specific topics include wave motion, sound, light optics, electrostatics, circuits, magnetism, and modern physics. Laboratory is required. PREREQUISITE: PHY 201.	10	12
2019-2020	909602	GENERAL PHYSICS WITH CAL I	This course provides a calculus-based treatment of the principle subdivisions of classical physics: mechanics and energy, including thermodynamics. Laboratory is required. PREREQUISITE: MTH 125 and/or as required by program.	10	12
2019-2020	909603	GENERAL PHYSICS WITH CAL II	This course provides a calculus-based study in classical physics. Topics included are: simple harmonic motion, waves, sound, light, optics, electricity and magnetism. Laboratory is required. PREREQUISITE: PHY 213.	10	12
2019-2020	909604	MODERN PHYSICS	The focus of this course is the development of the theory of relativity, the old quantum theory of Planck, Einstein, Bohr and Sommerfeld, and the new quantum physics of Schroedinger, Heisenberg, Dirac and Pauli. Laboratory experiments illustrate the principles discussed and include but not limited to determination of the speed of light, charge and charge to mass ratio of the electron, the Planck constant and the Rydberg constant. Laboratory is required. PREREQUISITE: PHY 214 and MTH 227.	10	12
2019-2020	909605	TECHNICAL PHYSICS	Technical physics is an algebra based physics course designed to utilize modular concepts to include: motion, forces, torque, work energy, heat wave/sound, and electricity. Results of physics education research and physics applications in the workplace are used to improve the student's understanding of physics in technical areas. Upon completion, students will be able to: define motion and describe specific module concepts; utilize microcomputers to generate motion diagrams; understand the nature of contact forces and distinguish passive forces; work cooperatively to set-up laboratory exercises; and demonstrate applications of module-specific concepts. PREREQUISITE: MTH 100.	10	12
2019-2020	909606	INTRODUCTION TO PHYSICS	This course provides an introduction to general physics for non science majors. Topics in fundamentals of mechanics, properties of matter, heat and temperature, simple harmonic motion, SHM, waves and sound, electricity and magnetism, optics and modern physics. Laboratory is required. PREREQUISITE: MTH 098 or higher.	10	12
2019-2020	909607	RECITATION IN PHYSICS I	One hour weekly purely for problem solving. PREREQUISITE: As required by program.	10	12
2019-2020	909608	RECITATION IN PHYSICS II	One hour weekly purely for problem solving. PREREQUISITE: As required by program.	10	12
2019-2020	909609	RECITATION IN PHYSICS	One hour weekly purely for problem solving. PREREQUISITE: As required by program.	10	12
2019-2020	909610	RECITATION IN PHYSICS WITH CAL II	One hour weekly purely for problem solving. PREREQUISITE: As required by program.	10	12
2019-2020	909800	INTRODUCTION TO POLITICAL SCIENCE	This course is an introduction to the field of political science through examination of the fundamental principles, concepts, and methods of the discipline, and the basic political processes and institutions of organized political systems. Topics include approaches to political science, research methodology, the state, government, law, ideology, organized political influences, governmental bureaucracy, problems in political democracy, and international politics. Upon completion, students should be able to identify, describe, define, analyze, and explain relationships among the basic principles and concepts of political science and political processes and institutions of contemporary political systems. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	909801	AMERICAN NATIONAL GOVERNMENT	This course surveys the background, constitutional principles, organization, and operation of the American political system. Topics include the U. S. Constitution, federalism, civil liberties, civil rights, political parties, interest groups, political campaigns, voting behavior, elections, the presidency, bureaucracy, Congress, and the justice system. Upon completion, students should be able to identify and explain relationships among the basic elements of American government and function as more informed participants of the American political system. PREREQUISITE: As required by program.	10	12
2019-2020	909802	STATE AND LOCAL GOVERNMENT	This course is a study of the forms of organization, functions, institutions, and operation of American state and local governments. Emphasis is placed on the variety of forms and functions of state and local governments, with particular attention to those in Alabama and to the interactions between state and local government and the national government. Upon completion, students should be able to identify elements of and explain relationships among the state, local, and national governments of the U.S., and function as more informed participants of state and local political systems. PREREQUISITE: As required by program.	10	12
2019-2020	909803	COMPARATIVE GOVERNMENT	This course introduces comparative analysis of political systems. Emphasis is placed on institutions and processes of contemporary national political systems in selected democratic industrial nations. Upon completion, students should be able to compare and contrast the organization, institutions, and processes of major types of governmental systems of the world. PREREQUISITE: As required by program.	10	12
2019-2020	909804	SURVEY OF INTERNATIONAL RELATIONS	This course is a survey of the basic forces affecting international relations. Topics include bases of national power, balance of power, causes of war, the international political economy, international law, international organization, and possible futures of international relations. Upon completion, students should be able to identify and discuss relevant terms and concepts, and identify, analyze, evaluate, and discuss the primary factors influencing the international relations of selected states. PREREQUISITE: As required by program.	10	12
2019-2020	909805	POLITICAL THEORY	This course is an introduction to political theory through examination of philosophical concepts related to development of modern political ideologies. Emphasis is placed on selected sources of political philosophies. Upon completion, students should be able to identify selected political concepts and associated philosophers, and define, analyze, and explain major tenets of selected ideologies. PREREQUISITE: As required by program.	10	12
2019-2020	909806	CURRENT AFFAIRS I	This course is the first course in a sequence designed to acquaint students with major issues and problems of contemporary society through examination of current events. Emphasis is placed on topics which contribute to student awareness of historical development and political significance of selected contemporary issues. Upon completion, students should be able to identify and explain factors in the historical development of, explain political significance of, and express informed judgments about selected contemporary social and political issues. PREREQUISITE: As required by program.	10	12
2019-2020	909807	CURRENT AFFAIRS II	This course is the second in a sequence of three courses designed to acquaint students with major issues and problems of contemporary society through examination of current events. Emphasis is placed on topics which contribute to student awareness of historical development and political significance of selected contemporary issues. Upon completion, students should be able to identify and explain factors in the historical development of, explain political significance of, and express informed judgments about selected contemporary social and political issues. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	909808	CURRENT AFFAIRS III	This course is the third course in a three course sequence designed to acquaint students with major issues and problems of contemporary society through examination of current events. Emphasis is placed on topics which contribute to student awareness of historical development and political significance of selected contemporary issues. Upon completion, students should be able to identify and explain factors in the historical development of, explain political significance of, and express informed judgments about selected contemporary social and political issues. PREREQUISITE: As required by program.	10	12
2019-2020	909809	CURRENT AFFAIRS	This course is a study of contemporary world events as reflected in current media reports. Emphasis is placed on topics of current significance as news or human interest events on the national and international levels. Upon completion, students should be able to identify and explain factors involved with, explain political significances of, and express informed judgments about selected contemporary social and political issues. PREREQUISITE: As required by program.	10	12
2019-2020	910000	INTRODUCTORY PORTUGUESE I	This course provides an introduction to Portuguese. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of Portuguese-speaking areas. PREREQUISITE: As required by program.	10	12
2019-2020	910001	INTRODUCTORY PORTUGUESE II	This course is a continuation of POR 101 and includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of Portuguese-speaking areas. PREREQUISITE: POR 101 or equivalent.	10	12
2019-2020	910002	INTERMEDIATE PORTUGUESE I	This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: POR 102 or equivalent.	10	12
2019-2020	910003	INTERMEDIATE PORTUGUESE II	This course is a continuation of POR 201 and includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: POR 201 or equivalent.	10	12
2019-2020	910200	GENERAL PSYCHOLOGY	This course is a survey of behavior with emphasis upon psychological processes. This course includes the biological bases for behavior, thinking, emotion, motivation, and the nature and development of personality. PREREQUISITE: As required by program.	10	12
2019-2020	910201	HUMAN GROWTH AND DEVELOPMENT	This course is the study of the psychological, social, and physical factors that affect human behavior from conception to death. PREREQUISITE: PSY 200.	10	12
2019-2020	910202	CHILD GROWTH AND DEVELOPMENT	This course is a systematic study of the behavior and psychological development of the child from conception to adolescence. Emphasis will be placed on principles underlying physical, mental, emotional and social development, methods of child study, and practical implications. PREREQUISITE: PSY 200.	10	12
2019-2020	910203	STATISTICS FOR THE SOCIAL SCIENCES	This course is an introduction to the basic statistical concepts, measures, and techniques used in social science research and report writing. It includes both descriptive and inferential statistics. PREREQUISITE: As required by program.	10	12
2019-2020	910204	ORIENTATION	This course is designed to introduce the student to college life, responsibilities, rules, and regulations. PREREQUISITE: As required by program.	10	12
2019-2020	910205	CAREER EXPLORATION	This course is designed for students to explore potential career fields. This course includes an assessment, through testing of strengths and weaknesses, general information about careers and job skills, value and decision making techniques, and a career research. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	910206	STUDY SKILLS	In this course, emphasis is placed on the skills of "how to study". The course introduces the student to effective techniques for listening in class, note taking, preparation for test taking, and an overall system of successful study. PREREQUISITE: As required by program.	10	12
2019-2020	910207	STRESS MANAGEMENT	This course is designed to improve the stress management skills of its students. Stress management techniques will be described and evaluated. The relationship between stress and disease will also be discussed. PREREQUISITE: As required by program.	10	12
2019-2020	910208	PERSONAL DEVELOPMENT	This is a structured group experience that emphasizes effective living through developing one's own internal resources. Topics included are self programmed control, relaxation training, and interpersonal skills. The course is designed to translate other life skills into successful college adjustment. Study skills, library skills, and life planning are also discussed. This course may not transfer to some four year institutions. PREREQUISITE: As required by program.	10	12
2019-2020	910209	PSYCHOLOGY OF ADJUSTMENT	This course provides an understanding of the basic principles of mental health and an understanding of the individual modes of behavior. PREREQUISITE: As required by program.	10	12
2019-2020	910210	CONTEMPORARY ISSUES IN PSYCHOLOGY	This course is a study of selected topics in general psychology. PREREQUISITE: PSY 200.	10	12
2019-2020	910211	ADOLESCENT PSYCHOLOGY	This course covers a systematic study of the behavior and psychological development of the adolescent from late childhood to early adulthood. Emphasis will be placed on principles underlying physical, mental, emotional, and social development. PREREQUISITE: PSY 200.	10	12
2019-2020	910212	ADULT PSYCHOLOGY	This course covers a systematic study of the behavior and psychological development of the adult. Emphasis will be placed on principles underlying physical, mental, emotional and social development. PREREQUISITE: PSY 200.	10	12
2019-2020	910213	PSYCHOLOGY OF DEATH AND DYING	This course is a study of the special psychological adjustments surrounding the issue of death and dealing with the terminally ill. PREREQUISITE: As required by program.	10	12
2019-2020	910214	HUMAN SEXUALITY	This course is a comprehensive and integrated approach to human sexuality emphasizing biological, psychological, social and emotional aspects. PREREQUISITE: As required by program.	10	12
2019-2020	910215	ABNORMAL PSYCHOLOGY	This course is a survey of abnormal behavior and its social and biological origins. The anxiety related disorders, psychoses, personality disorders and mental deficiencies will be covered. PREREQUISITE: PSY 200.	10	12
2019-2020	910216	EDUCATIONAL PSYCHOLOGY	This course is a study of psychological theories and principles as applied to the educational process. PREREQUISITE: PSY 200.	10	12
2019-2020	910217	SOCIAL PSYCHOLOGY	This course is a study of social factors and how they influence individual behavior. PREREQUISITE: PSY 200.	10	12
2019-2020	910218	BUSINESS AND INDUSTRIAL PSYCHOLOGY	This course is a study of interpersonal relations in the working environment, interpersonal communications, and techniques for selection and supervision of personnel. PREREQUISITE: As required by program.	10	12
2019-2020	910219	HUMAN RELATIONS	This course focuses on readings, inter- and intrapersonal experiences, individual testing, employer visits and open discussions. Its goal is to assist the student in making a successful transition from classroom to the world of work. PREREQUISITE: As required by program.	10	12
2019-2020	910220	BRAIN, MIND, AND BEHAVIOR	This course is a comprehensive study of the human brain and its functions. PREREQUISITE: PSY 200.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	910400	CRITICAL READING FOR COLLEGE	This course is designed to enhance critical reading skills. Topics include vocabulary enrichment, reading flexibility, metacognitive strategies, and advanced comprehension skills, including analysis and evaluation. Upon completion, students should be able to demonstrate comprehension and analysis and respond effectively to material across disciplines. PREREQUISITE: College test score placement or permission of the instructor.	10	12
2019-2020	910600	HEALTH AND FITNESS CLUB MANAGEMENT	This course is designed to introduce the student to all facets of proper management of a modern fitness facility. PREREQUISITE: As required by program.	10	12
2019-2020	910601	HEALTH AND FITNESS CLUB INTERNSHIP	This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, students should be able to demonstrate an understanding of the concepts covered through application. PREREQUISITE: As required by program.	10	12
2019-2020	910800	SURVEY OF THE OLD TESTAMENT	This course is an introduction to the content of the Old Testament with emphasis on the historical context and contemporary theological and cultural significance of the Old Testament. The student should have an understanding of the significance of the Old Testament writings upon completion of this course. PREREQUISITE: As required by program.	10	12
2019-2020	910801	SURVEY OF THE NEW TESTAMENT	This course is a survey of the books of the New Testament with special attention focused on the historical and geographical setting. The student should have an understanding of the books of the New Testament and the cultural and historical events associated with these writings. PREREQUISITE: As required by program.	10	12
2019-2020	910802	HISTORY OF WORLD RELIGIONS	This course is designed to acquaint the student with the beliefs and practices of the major contemporary religions of the world. This includes the religions of Africa, the Orient, and the western world. The student should have an understanding of the history and origins of the various religions in the world. PREREQUISITE: As required by program.	10	12
2019-2020	910803	SURVEY OF CHURCH HISTORY I	This is the first course in a sequence of two courses which is a study of the growth and development of the church from the New Testament to the Reformation. PREREQUISITE: As required by program.	10	12
2019-2020	910804	SURVEY OF CHURCH HISTORY II	This course is the second in a sequence of two courses which is a study of the growth and development of the church from the Reformation to the present day. PREREQUISITE: As required by program.	10	12
2019-2020	910805	CHRISTIAN DOCTRINE	This course is a comparative study of church doctrines. The student should have an understanding of the various doctrines of the church. PREREQUISITE: As required by program.	10	12
2019-2020	910806	INTRODUCTION TO CHRISTIAN LIVING	This course is a study of the categories of Christian ethics. Attention is given to the social institutions and how Christian ethics are applied to these institutions. The student should have an understanding of the ethical decisions of Christian living. PREREQUISITE: As required by program.	10	12
2019-2020	910807	INTRODUCTION TO PREACHING MINISTRY	This course is a study of the meaning of preaching, the importance of the sermon. Included in the course is an introduction to the textual and topical resources for sermons. The student should understand and be able to prepare sermons. PREREQUISITE: As required by program.	10	12
2019-2020	910808	TEACHING IN THE CHURCH	This course is a study of methods designed to improve teaching in the church. It addresses the meaning, methods, and materials that are effective in teaching in a church environment. The student should be able to develop a church curriculum upon completion of this course. PREREQUISITE: As required by program.	10	12
2019-2020	910809	CHURCH ADMINISTRATION	This course is a comparative study of various types of church administration. The student should have an understanding of the various types of church administration. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	910810	INTERPRETING THE BIBLE	This course is an attempt to understand the method of dealing with scripture as the Word of God. Attention is given to different approaches to interpretation and suggestions are provided for legitimate application. The student should develop a greater understanding of the Bible as a result of this course. PREREQUISITE: As required by program.	10	12
2019-2020	910811	LIFE AND TEACHINGS OF JESUS	This course is a study of the teachings of Jesus as recorded in the Gospels covering an examination of major events in his life in light of modern Biblical and historical scholarship. The student should have knowledge of Jesus' life and the application of his teachings to modern life. Emphasis in the course is given to the reading and interpretation of the gospels and on other ancient and modern source material. PREREQUISITE: As required by program.	10	12
2019-2020	910812	BIBLICAL BACKGROUND	This course is a contemporary overview of Biblical lands. The student should have an understanding of the geographical and cultural context of the lands associated with the Bible. PREREQUISITE: As required by program.	10	12
2019-2020	910813	HISTORY OF AMERICAN CHRISTIANITY	This course is an attempt to understand the complex character of American churches and sects, their origin and development. PREREQUISITE: As required by program.	10	12
2019-2020	911000	REAL ESTATE PRINCIPLES	This is an introductory real estate course providing the necessary terminology, background, and understanding of real estate principles. Topics include history of property ownership, real estate finance, real estate law, and the mechanics of listing and closing the sale. It is designed to assist those preparing for the real estate salesman's licensing examination in Alabama. PREREQUISITE: As required by program.	10	12
2019-2020	911001	REAL ESTATE MATH	This course is a study of the mathematics used in real estate. It includes mortgage lending calculations, tax calculations, interest calculations, insurance calculations, and all types of land measurements. PREREQUISITE: RLS 101	10	12
2019-2020	911002	REAL ESTATE FINANCE	This course provides an analysis of money markets with special emphasis on real estate financing. Topics include interest rates, lending policies, problems and rules in real estate financing of real property. PREREQUISITE: As required by program.	10	12
2019-2020	911003	REAL ESTATE APPRAISAL CERTIFICATION	This is an introductory course providing the foundation of real estate appraisal. Topics include site and physical factors; effects of the money and capital markets; methodologies used to value property; and how to present and evaluate the appraisal report. PREREQUISITE: As required by program.	10	12
2019-2020	911004	REAL ESTATE LAW	This course deals with the Alabama real estate law. Emphasis is placed on areas as real property and zoning easements, titles, deeds, recording practices, contracts, mortgages, and law. PREREQUISITE: As required by program.	10	12
2019-2020	911005	LIGHT AND RESIDENTIAL CONSTRUCTION	This course provides the non-technical student with an introduction to the basic principles of light and residential construction. Topics include terminology, importance of project planning, and importance of special building requirements and environmental concerns. PREREQUISITE: As required by program.	10	12
2019-2020	911006	REAL ESTATE OPERATIONS	This course provides an overview of the administrative practices involved in operating a real estate firm. Topics include leadership; recruiting, selecting, and training employees; market analysis; financial system and records. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	911007	INDEPENDENT STUDY IN REAL ESTATE	This course allows a student to pursue independent studies in the real estate field. Projects and/or topics may be assigned by the instructor or designed by the student, with instructor's approval. PREREQUISITE: As required by program.	10	12
2019-2020	911008	REAL ESTATE WORKSHOP	These workshops consist of presentations of current topics of interest to those employed in the real estate industry. They can be developed to meet the continuing education requirements of the real estate professional. They are offered upon demand. PREREQUISITE: As required by program.	10	12
2019-2020	911009	REAL ESTATE SALES	This course covers all phases of the various ethical techniques used in selling real estate. It includes fundamental concepts concerning human relationships and various methods used in advertising and promoting the sale of real estate. PREREQUISITE: RLS 101.	10	12
2019-2020	911010	PROPERTY MANAGEMENT	This course includes principles and practices of property management. Emphasis is placed on residential, business, industrial, and investment properties. PREREQUISITE: As required by program.	10	12
2019-2020	911011	COMMERCIAL AND INVESTMENT PROPERTY	This course deals with the sales of apartment buildings, hotels, lot and mercantile buildings, motels, office buildings, regional shopping centers, retail stores, and special purpose properties. Also examined are sales and leaseback plans, percentage leases, investing, and income tax considerations. PREREQUISITE: RLS 101.	10	12
2019-2020	911012	REAL ESTATE BROKERAGE	This course offers an exposure to the principles and techniques of mortgage financing and brokerage operations. It is designed to assist those preparing for the real estate broker's licensing examination in Alabama. Upon completion, the student should have a basic understanding of real estate brokerage. PREREQUISITE: RLS 101.	10	12
2019-2020	911013	REAL ESTATE INVESTMENTS	RLS 285 is an introduction to investment real estate. It examines the advantages, disadvantages, and tax implications. Feasibility studies are included dealing with real estate to be held for appreciation and income producing real estate. PREREQUISITE: As required by program.	10	12
2019-2020	911200	REALTIME REPORTING I/LAB	This course includes the study of computer-compatible, machine-stenographic theory principles, with an emphasis on clear, consistent, conflict-free writing; an introduction to the Arabic alphabetic system of writing numbers; the mastery of basic abbreviations; and speed development of 40-60 WPM on familiar material of higher-than-average syllabic density. PREREQUISITE: As required by college.	10	12
2019-2020	911201	REALTIME REPORTING TECHNOLOGY	This course is designed to provide students with competency in litigation support and computer-aided transcription of machine shorthand notes on several CAT systems. Attention will also be given to the word-processing functions of revising and editing, document storage and retrieval, merging texts, and printing documents. PREREQUISITE: As required by college.	10	12
2019-2020	911202	REALTIME REPORTING II/LAB	This course completes the study of computer-compatible, machine-stenographic theory principles and introduces computer-compatible court reporting abbreviations and phrases. Emphasis continues on speed development of 60-80 WPM on familiar material of higher-than-average syllabic density. Also included are machine-stenographic reporting and transcription of literary, jury charge, and testimony material. PREREQUISITE: As required by college.	10	12
2019-2020	911203	CIVIL AND CRIMINAL LAW AND TERMINOLOGY FOR REALTIME REPORTERS	This course includes substantive law, torts, contracts, personal property and agency, wills and estates, real property, family law, negotiable instruments, business organization. Civil and criminal procedure (discovery, trial, and appellate processes), hearings and arbitrations, the legislative process, and legal and Latin terminologies attendant thereto. PREREQUISITE: As required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	911204	REALTIME REPORTING III/LAB	This course includes the machine-stenographic reporting and transcription of two-voice testimony, jury charge, and literary material, with an emphasis on speed development in each of the three timing categories; a continuation of the study of computer-compatible abbreviations, phrases, and number drills. PREREQUISITE: As required by college.	10	12
2019-2020	911205	REALTIME CLOSED CAPTIONING TECHNOLOGIES	This course is designed to instruct students in utilizing Eclipse NT/Accucap software for captioning. Upon completion of the course, students understand basic setup of a captioning studio, equipment care and maintenance, implementation of functions and commands of software program, and troubleshooting skills. PREREQUISITE: As required by college.	10	12
2019-2020	911206	BROADCAST CAPTIONING I/LAB	This course includes the machine-stenographic reporting and transcription of two-voice testimony, Alabama criminal and civil jury instructions, and an introduction to multi-voice proceedings. Speed development in each of the three timing categories continues. Endurance-reporting workshops begin in this course. PREREQUISITE: As required by college.	10	12
2019-2020	911207	BROADCAST CAPTIONING II/LAB	This course is designed to enable students to operate a realtime translation system in the computer-integrated courtroom environment, deposition environment, classroom environment, broadcast environment, and in seminar, conference, and convention environments. This course includes the machine-stenographic reporting and transcription of two-voice testimony, Alabama criminal and civil jury instructions, and an introduction of multivoice proceedings. Speed development in each of the three timing categories continues. Endurance-reporting workshops begin in this course. PREREQUISITE: As required by college.	10	12
2019-2020	911208	BROADCAST CAPTIONING III/LAB	This course continues skill building in the realtime translation environments, with a focus on increasing speed and accuracy in the three timing categories. PREREQUISITE: As required by college.	10	12
2019-2020	911209	REALTIME CLOSED CAPTIONING TECHNOLOGY II	This course is a continuation of RTR 170. Emphasis is placed on the advanced features of Eclipse NT/Accucap software for captioning, dictionary development, and Internet research techniques. PREREQUISITE: As required by college.	10	12
2019-2020	911210	REALTIME LAB I	This course is designed to enable judicial and captioning students to enhance realtime skills through additional usage of software and equipment in perfecting theory principles and speed developmental skills in categories of Literacy, Jury Charge, and Q&A. PREREQUISITE: As required by college.	10	12
2019-2020	911211	REALTIME LAB II	This course is designed to enable judicial and captioning students to enhance realtime skills through additional usage of software and equipment in perfecting theory principles and speed development skills in categories of Literacy, Jury Charge, and Q&A. PREREQUISITE: As required by college.	10	12
2019-2020	911212	REALTIME LAB III	This course is designed to enable judicial and captioning students to enhance realtime skills through additional usage of software and equipment in perfecting theory principles and speed development skills in categories of Literacy, Jury Charge, and Q&A. PREREQUISITE: As required by college.	10	12
2019-2020	911213	REAL TIME LAB IV	This course is designed to enable judicial and captioning students to enhance realtime skills through additional usage of software and equipment in perfecting theory principles and speed development skills in categories of Literacy, Jury Charge, and Q&A. PREREQUISITE: As required by college.	10	12
2019-2020	911214	REAL TIME LAB V	This course is designed to enable judicial and captioning students to enhance realtime skills through additional usage of software and equipment in perfecting theory principles and speed development skills in categories of Literacy, Jury Charge, and Q&A. PREREQUISITE: As required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	911215	REAL TIME LAB VI	This course is designed to enable judicial and captioning students to enhance realtime skills through additional usage of software and equipment in perfecting theory principles and speed development skills in categories of Literacy, Jury Charge, and Q&A. PREREQUISITE: As required by college.	10	12
2019-2020	911216	REAL TIME REPORTING IV/LAB	This course includes the machine-stenographic reporting and transcription of two-voice testimony, jury charge, and literary material, with an increased emphasis on speed development in each of the three timing categories; a review of computer-compatible abbreviations and phrases; and a continuation of advanced number drills. PREREQUISITE: As required by college.	10	12
2019-2020	911217	REALTIME REPORTING V/LAB	This course includes the machine-stenographic reporting and transcription of two-voice testimony, Alabama criminal and civil jury instructions, and an introduction to multi-voice proceedings. Speed development in each of the three timing categories continues. Endurance-reporting workshops begin in this course. PREREQUISITE: As required by program	10	12
2019-2020	911218	JUDICIAL PROCEDURES	This course will instruct the student in the proper use of library and reference materials, including how to research citations. Additional emphasis is placed on correct procedures for the reading of notes, duties of notereaders, and scopists. The use of Computer-Aided Transcription (CAT) and videotape technology is explained. Requirements for reporters -- such as bonding, serving as a notary public, certifying documents, proper filing of records, and other official duties are discussed. PREREQUISITE: As required by program	10	12
2019-2020	911219	MOOT COURT PRACTICUM I	This course is designed to simulate deposition situations, utilizing actual transcripts. Speaker identification symbols are introduced. Speed and clarity are emphasized during readback of selected portions of notes. Emphasis is placed also on reporting techniques and punctuation essential to reflect accurately in machine-stenographic notes and transcript thereof various speech patterns, colloquial language, unreported events, and physical actions. This course and RTR 257 are taught in sequence. PREREQUISITE: As required by program. NOTE: Students much have a minimum speed of 150 wam or advisement. Students who have failed to achieve the graduation speed requirements by the end of the summer term of their sophomore year will be required to repeat this course.	10	12
2019-2020	911220	MOOT COURT PRACTICUM II	This course is a continuation of RTR 227, with the course now designed to simulate civil and criminal trail situations, utilizing actual transcripts. PREREQUISITE: As required by college. NOTE: Students who have failed to achieve the graduation speed requirements by the end of the summer term of their sophomore year will be required to repeat this course.	10	12
2019-2020	911221	REALTIME REPORTING VI/LAB	This course includes the continuation of accuracy and speed development in three timing categories. Lectures on expanded professional ethics and other situations are continued. PREREQUISITE: As required by college.	10	12
2019-2020	911222	REALTIME REPORTING INTERNSHIP	Students are assigned to college-approved internships where, under the guidance of supervision of official and/or general NCRA Registered Professional Reporters, they undergo extensive indoctrination in the duties and responsibilities of the profession. Minimum hours required: Fifty (50). PREREQUISITE: As required by college.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	911223	BROADCAST CAPTIONING INTERNSHIP	This course is designed to enable students to spend a minimum of 40 hours captioning in an approved freelance, official, and/or realtime captioning setting and produce a salable transcript of proceedings. Students will observe procedures, caption realtime material, receive on-the-job training under the guidance of experienced reports and broadcast captioners, and participate in classroom activities related to the internship experience. PREREQUISITE: As required by college.	10	12
2019-2020	911400	INTRODUCTION TO SOCIOLOGY	This course is an introduction to the vocabulary, concepts, and theory of sociological perspectives of human behavior. PREREQUISITE: As required by program.	10	12
2019-2020	911401	SOCIAL PROBLEMS	This course examines the social and cultural aspects, influences, incidences and characteristics of current social problems in light of sociological theory and research. PREREQUISITE: SOC 200.	10	12
2019-2020	911402	MARRIAGE AND THE FAMILY	This course is a study of family structures and families in a modern society. It covers preparation for marriage, as well as sociological, psychological, biological, and financial factors relevant to success in marriage and family life. PREREQUISITE: SOC 200.	10	12
2019-2020	911403	INTRODUCTION TO CRIMINOLOGY	This course delves into the nature and extent of crime in the United States, as well criminal delinquent behavior and theories of causation. The study includes criminal personalities, principles of prevention, control, and treatment. PREREQUISITE: As required by program.	10	12
2019-2020	911404	JUVENILE DELINQUENCY	This course examines the causes of delinquency. It also reviews programs of prevention, and control of juvenile delinquency as well as the role of the courts. PREREQUISITE: SOC 200.	10	12
2019-2020	911405	CRIMINAL AND DEVIANT BEHAVIOR	This course is an analysis of criminal and deviant behavior with emphasis on sociological and psychological theories of crime causation. PREREQUISITE: SOC 200 or SOC/CRJ 208.	10	12
2019-2020	911406	MODERN WOMEN IN A CHANGING SOCIETY	This course explores the role of the contemporary woman in the changing family and the world of work. PREREQUISITE: SOC 200.	10	12
2019-2020	911600	INTRODUCTORY SPANISH I	This course provides an introduction to Spanish. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of Spanish-speaking areas. PREREQUISITE: As required by program.	10	12
2019-2020	911601	INTRODUCTORY SPANISH II	This continuation course includes the development of basic communication skills and the acquisition of basic knowledge of the cultures of Spanish-speaking areas. PREREQUISITE: SPA 101 or Equivalent.	10	12
2019-2020	911602	INTERMEDIATE SPANISH I	This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. This course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: SPA 102 or Equivalent.	10	12
2019-2020	911603	INTERMEDIATE SPANISH II	This continuation course includes a review and further development of communication skills. Topics include readings of literary, historical, and/or cultural texts. PREREQUISITE: SPA 201 or Equivalent.	10	12
2019-2020	911800	FUNDAMENTALS OF ORAL COMMUNICATION	Fundamentals of Oral Communication is a performance course that includes the principles of human communication: intrapersonal, interpersonal, and public. It surveys current communication theory and provides practical application. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	911801	FUNDAMENTALS OF PUBLIC SPEAKING	This course explores principles of audience and environment analysis as well as the actual planning, rehearsing and presenting of formal speeches to specific audiences. Historical foundations, communication theories and student performances are emphasized. PREREQUISITE: As required by program.	10	12
2019-2020	911802	INTRO. TO INTERPERSONAL COMMUNICATION	This course is an introduction to the basic principles of interpersonal communication. PREREQUISITE: As required by program.	10	12
2019-2020	911803	BASIC THEORIES OF HUMAN COMMUNICATION	This is a survey, non-performance course which provides a general introduction to theories of human communication. PREREQUISITE: As required by program.	10	12
2019-2020	911804	VOICE AND DICTION	This course provides training for improvement in use of the speaking voice. Attention is focused on range, flexibility, clarity of articulation, and standards of pronunciation with individual help in the correction of faulty speech habits. A study of the International Phonetic Alphabet is included. PREREQUISITE: As required by program.	10	12
2019-2020	911805	PARLIMENTARY PROCEDURE	This course offers a simplified study of practice in the correct conduction of meetings. It also covers the making and handling of proper motions, duties of officers, and other helpful parliamentary techniques. PREREQUISITE: As required by program.	10	12
2019-2020	911806	SIGN LANGUAGE I	In this course, students are taught the basics of communication through sign language. PREREQUISITE: As required by program.	10	12
2019-2020	911807	SIGN LANGUAGE II	In this course, students are taught to expand vocabulary and proficiency in sign language. PREREQUISITE: As required by program.	10	12
2019-2020	911808	FORENSICS WORKSHOP I	These courses offer experience in speech activities such as debate, discussion, oral interpretation, extemporaneous speaking, and original oratory. The student is required to participate in scheduled intercollegiate speech tournaments. PREREQUISITE: As required by program.	10	12
2019-2020	911809	FORENSICS WORKSHOP I	These courses offer experience in speech activities such as debate, discussion, oral interpretation, extemporaneous speaking, and original oratory. The student is required to participate in scheduled intercollegiate speech tournaments. PREREQUISITE: As required by program.	10	12
2019-2020	911810	FORENSICS WORKSHOP I	These courses offer experience in speech activities such as debate, discussion, oral interpretation, extemporaneous speaking, and original oratory. The student is required to participate in scheduled intercollegiate speech tournaments. PREREQUISITE: As required by program.	10	12
2019-2020	911811	ORAL INTERPRETATION	This course is designed to help students develop specific skills in the analysis and oral interpretation of poetry, prose, and drama. It includes a study of the elements of oral communication such as imagery, structure, and dramatic timing. Opportunity is given for public/classroom performance of literature. PREREQUISITE: As required by program.	10	12
2019-2020	911812	ELEMENTS OF PERSUASION	This course is an advanced study and practice of the elements of persuasive speaking begun in SPH 106 and SPH 107. PREREQUISITE: As required by program.	10	12
2019-2020	911813	BUSINESS AND PROFESSIONAL SPEECH	This course focuses on the fundamentals of speech applied to business and professional speech, reports, sales talks, conference, interviews, speeches of goodwill, speeches of inspiration and courtesy, and after dinner speeches. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	911814	ARGUMENTATION AND DEBATE	This course introduces argumentation and debate and methods of bringing reasoned discourse to bear on personal and social problems. It includes investigations into the various types of debates with emphasis on the use of evidence, logic, responsibility of the advocate, and the composition of language for oral controversy. PREREQUISITE: As required by program.	10	12
2019-2020	911815	GROUP COMMUNICATION	This course offers a study of the nature, uses, and types of group discussion, intrapersonal communication, and the interpersonal communication. It includes a study of the role of democratic leadership in organizing and conducting group meetings. Group problem-solving and the individual's role in a functioning group are also explored. PREREQUISITE: As required by program.	10	12
2019-2020	911816	FUNDAMENTALS OF SPEECH COMMUNICATION FOR DAT	This performance course includes the study of the principles of human communication: intrapersonal, interpersonal, and public. It surveys communication theory and provides practical application. NCA. PREREQUISITE: As required by program.	10	12
2019-2020	911817	ORAL COMMUNICATION SKILLS	This course introduces the basic concepts of interpersonal communication and the oral communication skills necessary to interact with co-workers and customers, and to work effectively in teams. Topics include overcoming barriers to effective communication, effective listening, applying the principles of persuasion, utilizing basic dynamics of group discussion, conflict resolution, and positive communication patterns in the business setting. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, develop a businesslike personality, and effectively present themselves before co-workers and the public. NCA SP. PREREQUISITE: As required by program.	10	12
2019-2020	912000	TECHNIQUES OF BEHAVIOR MODIFICATION I	In this course the student will demonstrate the ability to decrease inappropriate behaviors and to shape appropriate behavior through the use of behavior modification techniques. PREREQUISITE: As required by program.	10	12
2019-2020	912001	THE COMMUNITY AND THE SOCIAL WORKER	This course is designed to acquaint the student with the demographic, economic and cultural composition of the community. The student will develop technical skills for making practical application of available resources for enhancing the quality of life within the community. PREREQUISITE: As required by program.	10	12
2019-2020	912002	PROBLEMS OF CHILDREN AND YOUTH	This course develops an understanding of the emotional, social, psychological and physical needs of children and youth. This course presents the influences and responsibilities of natural and surrogate parents. The student becomes familiar with the nature and causes of the more common problems and develops skills for assisting with the prevention and/or improvement of problems common among children and youth. PREREQUISITE: As required by program.	10	12
2019-2020	912003	GERIATRICS	This course includes the study of the needs of making adjustments to retirement, activities and hobbies of the older person, and community agencies available for the aged. This course will include common psychological and physical problems of the aging. Actual experience will be provided in helping the elderly accept the changes in later life and teaching them of the many services available to them. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	912004	COUNSELING FROM A CULTURAL PERSPECTIVE	This course will acquaint the students with some of the problems facing minorities. It will stress the importance of the counselor's knowledge of, and sensitivity to, the minority client experiences, and how these experiences are greater now than they have been at any time in the past three decades. This course will help counselors and mental health practitioners maximize their effectiveness when working with a culturally diverse population. The student will learn to establish the necessary and sufficient conditions of a counseling relationship with clients who are culturally different. Similarities in race, ethnicity and culture will be stressed. PREREQUISITE: As required by program.	10	12
2019-2020	912200	BASIC TELEPHONE	This course is designed to introduce the student to the basic concepts-theories used in the telecommunications field. The course will cover standard installation, wiring, troubleshooting, and color-coding techniques practiced by the telephone industry. Analog and digital theory will be discussed and compared. PREREQUISITE: As required by program.	10	12
2019-2020	912201	TRANSMISSION FUNDAMENTALS	This course is designed to give the student a working knowledge of telephone voice and data transmission over wires or carrier, includes the fundamentals of signaling, supervision and loop treatment. PREREQUISITE: TCT 116 and/or as required by program.	10	12
2019-2020	912202	KEY SYSTEMS	This course covers planning, installation and repair of electromechanical, electronic and digital key systems. Voice mail and system programming are included along with associated hardware. PREREQUISITE: As required by program.	10	12
2019-2020	912203	POWER SYSTEMS	This course covers the theory and practical application of telephone power equipment. Ferroresonate power supplies, batteries and signaling equipment maintenance are included. PREREQUISITE: As required by program.	10	12
2019-2020	912204	PABX	This course covers installation of PBX equipment and their associated software. PREREQUISITE: TCT 111 or TCT 131.	10	12
2019-2020	912205	BASIC TELEPHONE LAB	This is a concurrent lab for TCT 111. Experiments are designed to reinforce theory. PREREQUISITE: As required by program.	10	12
2019-2020	912206	TRANSMISSION FUNDAMENTALS LAB	This is concurrent lab for TCT 121. Experiments are designed to teach testing and analysis of transmission signals. PREREQUISITE: As required by program.	10	12
2019-2020	912207	KEY SYSTEM LAB	This is concurrent lab for TCT 131 used to teach installation by industry standards. PREREQUISITE: As required by program.	10	12
2019-2020	912208	PABX LAB	This is concurrent lab for TCT 141 where practical application of theory is stressed along with industry installation practices. PREREQUISITE: As required by program.	10	12
2019-2020	912209	STATION REPAIR	This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 111 and TCT 161.	10	12
2019-2020	912210	KEY SYSTEM REPAIR	This course provides for live work on existing key equipment within a telephone network. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 131 and TCT 181.	10	12
2019-2020	912211	PABX REPAIR	This course provides for live work on existing PABX equipment. □ This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 141 and TCT 191.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	912212	FIBER OPTICS	This course covers basic fiber optic transmission principles, including optical devices and light propagation through glass fibers. Connectors and splicing of fibers are integrated along with data transmission measurement. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: As required by program.	10	12
2019-2020	912213	ADVANCED PABX	This course is a continuation of PABX. Offering the student in-depth exploration of software applications. The subject matter will include speed calling lists, restriction lists, and multiple trunk configurations. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 141.	10	12
2019-2020	912214	DATA NETWORKING	This course is intended to explain how data communications systems and their various hardware and software work. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 111.	10	12
2019-2020	912215	OSP FUNDAMENTALS	This course is a course in telephone staking, utility mapping, cable and route design using copper and electronics. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 121.	10	12
2019-2020	912216	ADVANCED PABX LAB	This course is a continuation of TCT 191. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: TCT 141. Current enrollment in TCT 208.	10	12
2019-2020	912217	OSP FUNDAMENTALS LAB	The purpose of the lab is to give students practical experience in obtaining field notes, staking and design. This course covers the practical application of telephone repair principles conducted as live work on a working telephone system. PREREQUISITE: Concurrent enrollment in TCT 221.	10	12
2019-2020	912218	COOPERATIVE EDUCATION	This course is designed to provide a paid cooperative work experience directly related to the telecommunications technology field. Students enrolled in this course must be employed from a minimum of 10 hours to a maximum of 40 hours per week. The average hours worked each week will determine the number of credit hours allowed. Grades are based on the successful completion of the work experience as judged by the student's work supervisor and the faculty coordinator. To register for cooperative education, you must see the Job Development Officer in the Cooperative Education and Planning Office. PREREQUISITE: As required by program.	10	12
2019-2020	912400	THEATER WORKSHOP I	This is the first in a six-course sequence which provide practical experience in the production and performance of a dramatic presentation with assignments in scenery, lighting, props, choreography, sound, costumes, make-up, publicity, acting, directing, and other aspects of theater production. PREREQUISITE: As required by program.	10	12
2019-2020	912401	THEATER WORKSHOP II	This course is a continuation of THR 113. PREREQUISITE: THR 113.	10	12
2019-2020	912402	THEATER WORKSHOP III	This course is a continuation of THR 114. PREREQUISITE: THR 114.	10	12
2019-2020	912403	THEATER APPRECIATION	This course is designed to increase appreciation of contemporary theater. Emphasis is given to the theater as an art form through the study of history and theory of drama and the contributions to modern media. Emphasis of playwright, actor, director, designer and technician to modern media. Attendance at theater production may be required. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	912404	THEATER TECHNOLOGY SCENERY & LIGHTING	Scenic construction techniques and execution of state lighting via lectures, demonstrations, and practical application. Emphasis in tools, materials, and procedure. PREREQUISITE: As required by program.	10	12
2019-2020	912405	INTRODUCTION TO THEATER	This course is designed to teach the history of the theater and the principles of drama. It also covers the development of theater production and the study of selected plays as theatrical presentations. PREREQUISITE: As required by program.	10	12
2019-2020	912406	ACTING TECHNIQUES I	This is the first of a two-course sequence in which the student will focus on the development of the body and voice as the performing instruments in acting. Emphasis is placed on pantomime, improvisation, acting exercises, and building characterizations in short acting scenes. PREREQUISITE: As required by program.	10	12
2019-2020	912407	ACTING TECHNIQUES II	This course is a continuation of THR 131. PREREQUISITE: THR 131.	10	12
2019-2020	912408	ACTING FOR FILM AND TELEVISION	This course is a study of acting techniques for visual media, television, and film. PREREQUISITE: As required by program.	10	12
2019-2020	912409	INTRODUCTION TO DANCE IN THEATER I	This is the first of a two-course sequence which offers the student an introduction to basic dance movements and the use of dance in dramatic productions. PREREQUISITE: As required by program.	10	12
2019-2020	912410	INTRODUCTION TO DANCE IN THEATER II	This course is a continuation of THR 141. PREREQUISITE: THR 141.	10	12
2019-2020	912411	INTRODUCTION TO THEATRICAL DESIGN	Study and application of elements of design in theater setting. Roles of scenic, lighting, and costume designers and the collaborative relationship with their director. PREREQUISITE: As required by program.	10	12
2019-2020	912412	THEATER WORKSHOP IV	This course is a continuation of THR 113-114-115. PREREQUISITE: THR 115.	10	12
2019-2020	912413	THEATER WROKSHOP V	This course is a continuation of THR 113, 114, 115. PREREQUISITE: THR 213.	10	12
2019-2020	912414	THEATER WORKSHOP VI	This course is a continuation of THR 113-114-115-214. PREREQUISITE: THR 214.	10	12
2019-2020	912415	THEATERICAL MAKEUP	This course is a study of the materials and techniques of theatrical make-up. PREREQUISITE: As required by program.	10	12
2019-2020	912416	SCENOGRAPHIC TECHNIQUES	Practical work to develop proficiency in drafting technical drawings for the state, including ground plans, elevations, detail, and isometric drawings. PREREQUISITE: As required by college.	10	12
2019-2020	912417	SCENE PAINTING	Historic and contemporary methods of painting scenery for the state. Includes practical application of techniques in the scenic studio. PREREQUISITE: As required by college.	10	12
2019-2020	912418	STAGECRAFT	This course is a study of the principles, techniques, and materials in theatrical scenery and lighting. PREREQUISITE: As required by college.	10	12
2019-2020	912419	VOICE AND SPEECH FOR THE PERFORMER	This is a beginning course in the effective and healthy use of the vocal instrument for performance. It is designed to approach both the physical and mental processes of vocal production and includes the following: learning a physical/vocal warm-up, dialect reduction, articulation, class performance and written exams. PREREQUISITE: None.	10	12
2019-2020	912420	THEATER FOR CHILDREN I	This is the first in a two-course sequence which offers the student practical experience in acting, directing, and developing material for children's theater. PREREQUISITE: As required by college.	10	12
2019-2020	912421	THEATER FOR CHILDREN II	This course is a continuation of THR 251. PREREQUISITE: THR 251.	10	12
2019-2020	912422	FUNDAMENTALS OF DIRECTING	This course is designed to cover the fundamentals of directing. Instruction will include lectures, demonstration, written and oral analysis of scripts and performances. PREREQUISITE: As required by program.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	912423	STAGE MOVEMENT I	This is the first in a two-course sequence which offer the student a basic introduction to movement for the stage for those interested in acting or dance. They also include consideration of role development through movement. PREREQUISITE: As required by program.	10	12
2019-2020	912424	STAGE MOVEMENT II	This course is a continuation of THR 281. PREREQUISITE: THR 281.	10	12
2019-2020	920001	NON-STRUCTURAL REPAIR	Students are introduced to basic principles of non-structural panel repairs. Topics include shop safety, identification and use of hand/power tools, panel preparation, sheet metal repairs, and materials.	10	12
2019-2020	920002	NON-STRUCTURAL PANEL REPLACEMENT	Students are introduced to the principles of non-structural panel replacement. Topics include replacement and alignment of bolt on panels, full and partial panel replacement procedures, and attachment methods.	10	12
2019-2020	920003	SURFACE PREPARATION	This course introduces students to methods of surface preparation for vehicular refinishing. Topics include sanding techniques, metal treatment, selection of undercoats, and proper masking procedures.	10	12
2019-2020	920004	PAINT APPLICATION AND EQUIPMENT	This course introduces students to methods of paint application and equipment used for vehicular refinishing. Topics include spray gun and related equipment use, paint mixing, matching, and applying the final topcoat.	10	12
2019-2020	920005	SAFETY AND ENVIRONMENTAL PRACTICES	This course is designed to instruct the student in the safe use of tools, equipment, and appropriate work practices. Topics include OSHA requirements, the right to know laws, EPA regulations as well as state and local laws. This is a CORE course.	10	12
2019-2020	920006	AUTOMOTIVE GLASS AND TRIM	This course is a study of automotive glass and trim. Emphasis is placed on removal and replacement of structural and nonstructural glass and automotive trim. Upon completion, students should be able to remove and replace automotive trim and glass.	10	12
2019-2020	920007	AUTOMOTIVE CUTTING AND WELDING	Students are introduced to the various automotive cutting and welding processes. Emphasis is placed on safety, plasma arc, oxy-acetylene cutting, resistance type spot welding, and Metal Inert Gas (MIG) welding. Upon completion, students should be able to safely perform automotive cutting and welding procedures.	10	12
2019-2020	920008	AUTOMOTIVE PLASTIC REPAIRS	This course provides instruction in automotive plastic repairs. Topics include plastic welding (airless, hot and chemical), use of flexible repair fillers, identification of types of plastics, and determining the correct repair procedures for each. Upon completion, students should be able to correctly identify and repair the different types of automotive plastics.	10	12
2019-2020	920009	AUTOMOTIVE STRUCTURAL ANALYSIS	Students learn methods of determining structural misalignment. Topics include methods of inspection, types of measuring equipment, data sheets, and identifying types of structural damage.	10	12
2019-2020	920010	AUTOMOTIVE STRUCTURAL REPAIR	This course provides instruction in the correction of structural damage. Topics include types and use of alignment equipment, anchoring and pulling methods, and repair/replacement of structural components.	10	12
2019-2020	920011	AUTOMOTIVE MECHANICAL COMPONENTS	This course provides instruction in collision related mechanical repairs. Emphasis is placed on diagnosis and repairs to drive train, steering/suspension components, and various other mechanical repairs.	10	12
2019-2020	920012	AUTOMOTIVE ELECTRICAL COMPONENTS	This course provides instruction in collision related electrical repairs and various restraints systems, including seat belts, seat belt tensioners, and airbags. Topics include basic DC theory, types of diagnostic equipment, circuit protection, wire repair, use of wiring diagrams, airbag modules, and impact sensors.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920013	STEERING AND SUSPENSION	This course introduces students to the various types of suspension and steering systems used in the automotive industry. Emphasis is placed on system components, suspension angles and effect of body/frame alignment on these components and angles.	10	12
2019-2020	920014	HEATING & AC IN COLLISION REPAIR	This course is a study of automotive air conditioning, heating, and cooling systems. Topics include automotive air conditioning, heating and cooling systems theory, component replacement and system service.	10	12
2019-2020	920015	RESTRAINT SYSTEMS	Both the function and design of various restraints and passive restraints systems, including seat belts, seat belt tensioners, and airbags, will be discussed. Topics include airbag modules and impact sensors for both front and side airbag systems. Students learn about using service manuals, flow charts, and wiring diagrams during the diagnosis and repair process.	10	12
2019-2020	920016	PAINT DEFECTS & FINAL REPAIR	This course introduces students to methods of identifying paint defects, causes, cures, and final detailing. Students learn to troubleshoot and correct paint imperfections.	10	12
2019-2020	920017	ALUMINUM WELDING IN COLLISION REPAIR	This course covers the principles and techniques of aluminum GMA (MIG) welding. Students learn to set up and tune a welding machine, address safety issues, perform proper welding techniques, prepare metal surfaces, and identify and correct weld defects.	10	12
2019-2020	920018	SHOP MANAGEMENT	This course introduces the students to the basic principles of body shop management. Emphasis is placed on management structure, customer/insurance company relations, sound business practices, principles of cycle time, and basic collision/damage estimation. Upon completion, students should be able to understand the principles of operating a collision repair facility.	10	12
2019-2020	920019	ESTIMATING AND DAMAGE ANALYSIS	This course introduces the students to the principles of collision/damage estimation. Topics include cost and time estimations, determinations of repair or replacement of parts, and whether to use new, used, or aftermarket parts. Upon completion of this course students should be able to provide a hand written or computerized damage report/estimate.	10	12
2019-2020	920020	ADVANCED REPAIR SKILLS APPLICATION	This course is designed to provide students with a capstone experience incorporating the knowledge and skills learned in the Auto Body program into one project. Special emphasis is given to student skill attainment.	10	12
2019-2020	920021	AUTO BODY REPAIR CO-OP	This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, students should have gained skills necessary for entry level employment.	10	12
2019-2020	920022	AUTO BODY REPAIR CO-OP	This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, students should have gained skills necessary for entry level employment.	10	12
2019-2020	920023	AUTO BODY REPAIR CO-OP	This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, students should have gained skills necessary for entry level employment.	10	12
2019-2020	920201	PRINCIPLES OF REFRIGERATION	This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common, and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. Upon completion, students should identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920202	HVACR SERVICE PROCEDURES	This course covers system performance checks and refrigerant cycle diagnosis. Emphasis is placed on the use of refrigerant recovery/recycle units, industry codes, refrigerant coils and correct methods of charging and recovering refrigerants. Upon completion, students should be able to properly recover/recycle refrigerants and demonstrate safe, correct service procedures which comply with the no-venting laws.	10	12
2019-2020	920203	REFRIGERATION PIPING PRACTICES	The course introduces students to the proper installation procedures of refrigerant piping and tubing for the heating, ventilation, air conditioning and refrigeration industry. This course includes various methods of working with and joining tubing. Upon completion, students should comprehend related terminology, and be able to fabricate pipe, tubing, and pipe fittings.	10	12
2019-2020	920204	FUNDAMENTALS OF GAS HEATING SYSTEMS	This course provides instruction on general service and installation for common gas furnace system components. Upon completion, students will be able to install and service gas furnaces in a wide range of applications.	10	12
2019-2020	920205	FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS	This course covers the fundamentals of electric furnace systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, students should be able to install and service electric furnaces, heat pumps, and solar and hydronics systems.	10	12
2019-2020	920206	PRINCIPLES OF ELECTRICITY FOR HVACR	This course is designed to provide the student with the basic knowledge of electrical theory and circuitry as it pertains to air conditioning and refrigeration. This course emphasizes safety, definitions, symbols, laws, circuits, and electrical test instruments. Upon completion students should understand and be able to apply the basic principles of HVACR circuits and circuit components. This is a CORE course.	10	12
2019-2020	920207	HVACR ELECTRIC CIRCUITS	This course introduces the student to electrical circuits and diagrams. Electrical symbols and basic wiring diagrams are constructed in this course. Upon completion, student should understand standard wiring diagrams and symbols and be able to construct various types of electrical circuits. This is a CORE course.	10	12
2019-2020	920208	HVACR ELECTRICAL COMPONENTS	This course introduces students to electrical components and controls. Emphasis is placed of the operations on motors, relays, contactors, starters, and other HVAC electrical components. Upon completion, students should be able to install electrical components and determine their proper operation. This is a CORE course.	10	12
2019-2020	920209	FUNDAMENTALS OF GAS AND ELECTRICAL HEATING SYSTEMS	This course provides instruction on general service and installation for common gas and electrical heating systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, students will be able to install and service gas and electrical heating systems in a wide range of applications. NOTE: This course is a suitable substitution for ACR 119 and 120 if those both courses are taken.	10	12
2019-2020	920210	COMMERCIAL HEATING SYSTEMS	□ This course covers the theory and application of larger heating systems. Emphasis is placed on larger heating systems associated with commercial applications such as gas heaters, boilers, unit heaters, and duct heaters. Upon completion, student should be able to troubleshoot and perform general maintenance on commercial heating systems. □	10	12
2019-2020	920211	HVACR ELECTRIC MOTORS	This course covers the basic maintenance of electric motors used in HVAC/R systems. Topics include types of motors, motor operations, motor installation, and troubleshooting motors. Upon completion student should be able to install and service HVAC/R electric motors.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920212	HEAT LOAD CALCULATIONS	This course focuses on heat flow into and out of building structures. Emphasis is placed on determining heat gain/heat loss of a given structure. Upon completion, students should be able to calculate heat load and determine HVAC equipment size requirements.	10	12
2019-2020	920213	COMPUTER ASSISTED HVAC TROUBLESHOOTING	This course focuses on troubleshooting procedures. Emphasis is placed on the proper use of test equipment and machine/electrical malfunctions. Upon completion, student should be able to diagnosis and repair service problems in HVAC equipment.	10	12
2019-2020	920214	RESIDENTIAL AIR CONDITIONING	This course introduces students to residential air conditioning systems. Emphasis is placed on the operation, service, and repair of residential air conditioning systems. Upon completion, students will be able to service and repair residential air conditioning systems.	10	12
2019-2020	920215	DOMESTIC REFRIGERATION	This course covers domestic refrigerators and freezers. Emphasis is placed on installation, removal, and maintenance of components. Upon completion, students should be able to service and adjust domestic refrigeration units.	10	12
2019-2020	920216	ICE MACHINES	This course introduces students to commercial ice machines. Emphasis is placed on components, electrical and mechanical operation sequences, control adjustment procedures, preventive maintenance, repairs, and installation procedures. Upon completion, student should be able to install, service and repair commercial ice machines.	10	12
2019-2020	920217	MECHANICAL/GAS/SAFETY CODES	This course is to enhance the student's knowledge of the International Fuel Gas Code and International Mechanical Code as well as fire and job safety requirements. Emphasis is placed on code book content and compliance with installation requirements. Upon completion, students should be able to apply code requirements to all work.	10	12
2019-2020	920218	CUSTOMER RELATION IN HVAC	This course covers the basic aspects of customer relations needed by the HVAC technician. Topics include employability skills associated with job performance, record keeping, service invoices, certification requirements, local ordinances, and business ethics. Upon completion, students should be able to get a job and keep it.	10	12
2019-2020	920219	ENVIRONMENTAL SYSTEMS	This course provides students with knowledge and skills of environmental chambers. Topics include theory of the refrigerant components and refrigerant circuits, programmable controllers, electrical pressure and calibration instruments and places emphasis on safety. Upon course completion, students should be able to apply environmentally-safe practices.	10	12
2019-2020	920220	BASIC DRAWING AND BLUEPRINT READING IN HVAC	This course covers basic drawing and blueprint reading as applied to the HVAC industry. Emphasis is on three-view drawings, basic duct systems, and isometric piping. Upon course completion, students should be able to perform basic drawings related to HVAC systems and read pertinent blueprints.	10	12
2019-2020	920221	REFRIGERANT TRANSITION AND RECOVERY THEORY	This course is EPA-approved and covers material relating to the requirements necessary for type I, II, and III universal certification. Upon completion, students should be prepared to take the EPA 608 certification examination.	10	12
2019-2020	920222	HEAT PUMP SYSTEMS I	Instruction received in this course centers around the basic theory and application of heat pump systems and components. Upon completion students will be able to install and service heat pumps in a wide variety of applications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920223	HEAT PUMP SYSTEMS II	This is a continuation course of the basic theory and application of heat pump systems. Topics include the electrical components of heat pumps and their function. Upon completion student should be able to install and service heat pumps.	10	12
2019-2020	920224	BASIC SHEET METAL PROCESSES	This course provides instruction in sheet metal hand processes. Topics include the use of bench tools and hand brake, with an emphasis on bending, shearing and notching. This course also includes the principles of layout and design.	10	12
2019-2020	920225	DUCT DESIGN AND FABRICATION	This course provides instruction related to blueprints, layouts, and design ducts. Topics include all aspects of fabrication including straight duct, offsets and various other fittings needed to perform a certain task.	10	12
2019-2020	920226	HEAT PUMP SYSTEMS	This course provides instruction on the operation and servicing of heat pump systems. Emphasis is placed on theory and application of refrigerants for heat pump systems and on basic service of components. Students should possess a strong foundation of electrical principles and theory. Upon completion students will be able to install and service heat pumps. NOTE: Information in this course is identical to ACR 148 and 149 and can be an alternative to those courses.	10	12
2019-2020	920227	HVAC APPRENTICESHIP/INTERNSHIP	This course is designed to provide basic hands-on experiences in the work place. The student is provided with a training plan developed by the employer and instructor working together to guide the learning experience. Upon course completion, students should be able to work independently and apply related skills and knowledge. This course involves a minimum of 15 work hours weekly	10	12
2019-2020	920228	REVIEW FOR CONTRACTORS EXAM	This course prepares students to take the State Certification Examination. Emphasis is placed on all pertinent codes, piping procedures, duct design, load calculation, psychometrics, installation procedures, and air distribution. Upon completion, students should be prepared to take the contractors exam.	10	12
2019-2020	920229	SPECIAL REFRIGERATION SYSTEMS	This course is designed to give the students the basic knowledge of a variety of commercial refrigeration systems. Topics include expandable refrigeration evaporator systems, combination spray and compressor system, open cycle ammonia, CO2 pellets, vortex tubes, reach in coolers, and soft serve ice cream machines. Upon completion, students should be able to perform general troubleshooting and maintenance on various commercial refrigeration systems.	10	12
2019-2020	920230	COMMERCIAL REFRIGERATION	This course focuses on commercial refrigeration systems. Emphasis is placed on evaporators, condensers, compressors, expansion devices, special refrigeration components and application of refrigeration systems. Upon completion students should be able to service and repair commercial refrigeration systems.	10	12
2019-2020	920231	SYSTEM SIZING AND AIR DISTRIBUTION	This course provides instruction in the load calculation of a structure and system sizing. Topics of instruction include heat loss, heat gain, equipment and air distribution sizing, and factors making acceptable indoor air quality. Upon course completion, students should be able to calculate system requirements.	10	12
2019-2020	920232	COMMERCIAL AIR CONDITIONING SYSTEMS	This course focuses on servicing and maintaining commercial and residential HVAC/R systems. Topics include system component installation and removal and service techniques. Upon completion, the student should be able to troubleshoot and perform general maintenance on commercial and residential HVAC/R systems.	10	12
2019-2020	920233	TROUBLESHOOTING HVACR SYSTEMS	This course provides instruction in the use of various meters and gauges used in the HVACR industry. Emphasis is placed on general service procedures, system diagnosis, and corrective measure, methods of leak detection, and system evacuation, charging and performance checks. Upon completion students should be able to perform basic troubleshooting of HVAC/R.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920401	INTRODUCTION TO BUSINESS	This course acquaints the student with American business as a dynamic process. Topics include the private enterprise system, forms of business ownership, marketing, production factors, personnel, labor, finance, and taxation. Upon completion of this course, the student will be able to discuss and apply the basic business principles.	10	12
2019-2020	920402	INTRODUCTION TO ACCOUNTING DATABASE RESOURCES	This course introduces the student to Database resources available for use with the accounting programs. Emphasis is placed on Database and Financial Accounting software packages. Upon completion of this course, the student will be able to use the computerized Database software.	10	12
2019-2020	920403	INTRODUCTION TO ACCOUNTING COMPUTER RESOURCES	This course introduces the student to the computer resources available for use with the accounting program. Emphasis is placed on accounting spreadsheets and financial accounting software packages. Upon completion of this course, the student will be able to use the computer resources in the accounting program.	10	12
2019-2020	920404	FUNDAMENTALS OF ACCOUNTING I	This course provides a basic theory of accounting principles and practices used by service and merchandising enterprises. Emphasis is on financial accounting, including the accounting cycle, and financial statement preparation and analysis. Upon completion of this course, the student will be able to apply basic accounting principles and practices used by service and merchandising enterprises. CORE	10	12
2019-2020	920405	FUNDAMENTALS OF ACCOUNTING II	This course is a continuation of ACT 141. In addition to a study of financial accounting, this course emphasizes managerial accounting, with coverage of corporations, statement analysis, introductory cost accounting, and use of accounting information for planning, control and decision making. Upon completion of this course, the student will be able to apply the principles of managerial accounting. CORE	10	12
2019-2020	920406	BASIC ACCOUNTING PROCEDURES	This course focuses on basic bookkeeping procedures and elementary accounting principles. Emphasis is on analyzing and recording financial transactions, classifying and summarizing data, and preparing financial statements. Upon completion of this course, the student will be able to apply basic bookkeeping procedures and elementary accounting principles.	10	12
2019-2020	920407	MANAGERIAL ACCOUNTING	This course introduces the student with management concepts and techniques of industrial accounting procedures. Emphasis is on cost behavior, contribution approach to decision-making, budgeting, overhead analysis, cost-volume-profit analysis, and cost accounting systems. Upon completion of this course, the student will be able to apply management concepts and techniques of industrial accounting procedures.	10	12
2019-2020	920408	ACCOUNTING CO-OP	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	920409	ACCOUNTING CO-OP	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	920410	ENTREPRENEURISM	This course covers the important issues and critical steps involved in starting a new business from scratch. Topics covered include developing a business plan, creating a successful marketing strategy, setting up the legal basis for business, raising start-up funds, attracting and managing human resources, managing costs, and developing a custom base.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920411	MICROCOMPUTER ACCOUNTING	This course utilizes the microcomputer in the study of financial accounting principles and practices. Emphasis is placed on the use of software programs for financial accounting applications. Upon completion of this course, the student will be able to use software programs for financial accounting applications. CORE	10	12
2019-2020	920412	ADVANCED ACCOUNTING APPLICATIONS ON THE MICROCOMPUTER	In this course, students use the microcomputer in managerial accounting. Emphasis is on a variety of software programs for managerial accounting applications. Upon completion of this course, the student will be able to use various managerial accounting software programs.	10	12
2019-2020	920413	PAYROLL ACCOUNTING	This course focuses on federal, state and local laws affecting payrolls. Emphasis is on payroll accounting procedures and practices, and on payroll tax reports. Upon completion of this course, the student will be able to apply knowledge of federal, state and local laws affecting payrolls. CORE	10	12
2019-2020	920414	APPLIED ACCOUNTING PRINCIPLES AND PRACTICES	The purpose of this course is for students to apply comprehensive principles of accounting practices. Upon completion students will be able to apply accounting principles and practices for various business and industry enterprises.	10	12
2019-2020	920415	INTERMEDIATE ACCOUNTING	This course provides an overview of accounting and its theoretical foundation, with a review and in-depth study of the accounting process and the conceptual framework of accounting financial statements. Emphasis is placed on principles underlying the accounting and reporting process, preparation of financial statements, theory and measurement of current tangible and intangible assets. Upon completion of this course, the student will be able to apply accounting principles and practices.	10	12
2019-2020	920416	ACCOUNTING CASE STUDIES	This course includes a practical application of accounting knowledge through a series of case studies. The case study method of learning places emphasis on the preparation for, and classroom discussion described in the case. Upon completion of this course, the student will be able to apply accounting knowledge in a variety of situations.	10	12
2019-2020	920417	INDIVIDUAL INCOME TAX	This course focuses on the fundamentals of the federal income tax laws with primary emphasis on those affecting the individual. Emphasis is on gross income determination, adjustments to income, business expenses, itemized deductions, exemptions, capital gains/losses, depreciation, and tax credits. Upon completion of this course, the student will be able to apply the fundamentals of the federal income tax laws affecting the individual.	10	12
2019-2020	920418	BUSINESS INCOME TAX	This course focuses on federal income tax laws concerning business entities. Emphasis is on income tax investment of partnerships, corporation, LLPs and LLCs. Upon completion of this course, the student will be able to apply federal income tax laws concerning business entities.	10	12
2019-2020	920419	COST ACCOUNTING	This course familiarizes the student with cost accounting principles and techniques. Emphasis is on procedures to provide data for job order and continuous process types of industries, determination of unit costs, and preparation of cost reports. Upon completion of this course, the student will be able to apply cost accounting principles and techniques.	10	12
2019-2020	920420	GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING	This course is an introduction to the principles, concepts and practices of accounting for governmental and not-for-profit organizations. Emphasis is on fund accounting and its utilization in governmental agencies, colleges and universities, hospitals, and other not-for-profit organizations. Upon completion of this course, the student will be able to apply the principles, concepts, and practices of governmental and not-for-profit accounting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920601	INDUSTRIAL SAFETY	This course is an introduction to general issues, concepts, procedures, hazards, and safety standards found in industrial environment. This safety course is to make technicians aware of safety issues associated with their changing work environment and attempts to eliminate industrial accidents.	10	12
2019-2020	920602	PRECISION MEASUREMENT	This course covers the use of precision measurement instruments utilized in inspection. In addition, basic print reading techniques reverse engineering, and related industry standards required in advanced manufacturing disciplines are covered. Upon completion, students should be able to demonstrate correct use of precision measuring instruments, interpret basic prints and apply basic reverse engineering techniques.	10	12
2019-2020	920603	COMPUTER AIDED DESIGN	This course is an introduction to basic Computer Aided Design functions and techniques using “hands-on” applications. Topics include terminology, hardware, basic computer aided design (CAD) and operating system functions, file manipulation, industry standards for CAD drawings, and basic CAD software applications in producing softcopy and hardcopy. At the completion of this course, students should be proficient in the production of two-dimensional drawings that meets technical standards including setting up print styles and exporting drawings to the appropriate format	10	12
2019-2020	920604	INTRODUCTION TO CIM MATERIALS &AND PROCESSES	□ This course provides an overview of the materials and processes used in advanced manufacturing. In addition, this course is a basic introduction to concepts related to the computer integrated manufacturing (CIM) process. The student will be exposed to the theory behind the complete automation of a manufacturing plant with all processes functioning under computer control and digital information tying them together. The technician’s role in the process improvement of not only the cell but the full CIM system, related safety, and inspection and process adjustment are also covered. □	10	12
2019-2020	920605	INTRODUCTION TO THERMAL/ELECTRICAL PRINCIPLES	This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common, and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. In addition, this course covers electrical/electronic fundamentals and principles. Emphasis is placed on electrical theory and science, semiconductor devices, motors, transformers, digital concepts, programmable logic controllers, and circuit analysis of resistive, capacitive, resonant, and tuned circuits. Upon completion, students will have knowledge of basic electricity and electronics and be able to identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system.	10	12
2019-2020	920606	FLUID SYSTEMS	This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventive maintenance functions on hydraulic and pneumatic systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920607	QUALITY CONTROL CONCEPTS	This course provides an overview of the materials and processes and quality assurance topics used in commercial and specialized manufacturing products. Emphasis is placed on process evaluation techniques that can be extrapolated to other system areas such as new products and new technology. Emphasis is also placed on quality assurance including the history of the quality movement, group problem solving, and statistical methods such as statistical process control (SPC), process capability studies, and the concepts associated with lean manufacturing.	10	12
2019-2020	920608	INTRODUCTION TO 3D MODELING	This course provides an introduction to basic 3 Dimensional (3D) modeling functions and techniques. The “Hands-on” class structure utilizes various 3D software applications and the parametric concept will be introduced. Topics include terminology, hardware, basic 3D modeling, involving sketching and 3D feature creation, feature application, and operating system functions. Upon completion students should be able to generate basic 3D parts and associated working drawings in soft and hard copy format.	10	12
2019-2020	920609	PLASTIC MATERIAL PROCESSES	□ This course in plastic materials and processes includes the basic principles and methodology of various material types and manufacturing processes. Comparison of selecting the best type of manufacturing for product will be discussed. Student will learn proper instruction on safety operations, set-up and maintenance and production of parts on a Fused Deposition Manufacturing (FDM) printer or Rapid Prototype (RP) System. Emphasis is directed on 3D modeling software program (such as Solid works) and Insight software 2/3D sketches, RP manufacturing technologies, FDM usages and processing with various types of manufactured plastics. Upon completion, students should be able to discuss and understand the significance of materials properties and structure, basic rapid prototyping, and express and interpret material specifications and be able to select the best process for the type of product being produced.□	10	12
2019-2020	920610	TECHNICAL COOPERATIVE EDUCATION	Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate students’ progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	920611	TECHNICAL COOPERATIVE EDUCATION	Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate students’ progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	920612	TECHNICAL COOPERATIVE EDUCATION	Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate students’ progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	920613	TECHNICAL COOPERATIVE EDUCATION	Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate students’ progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	920614	TECHNICAL COOPERATIVE EDUCATION	Students work on a part-time basis in a job directly related to applied technologies. The employer and supervising instructor evaluate students’ progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920615	INDUSTRIAL ROBOTICS SAFETY	<p>☐</p> <p>This course covers safety aspects associated with industrial robots and the procedures to follow when working around them. The topics are approached from maintenance/repair and engineering perspectives. Students have the opportunity to learn common types of accidents associated with robot work and the sources of these accidents. North American and European safety standards including new ANSI/RIA safety standards for Industrial Robots (15.06), risk assessment methodologies, risk reduction methods and the application of various safety products are also covered. ☐</p>	10	12
2019-2020	920616	INTERMEDIATE 3D MODELING	<p>In this course students will receive instruction on intermediate 3D modeling concepts, such as sheet metal modeling, intermediate assemblies, 3D sketching and weldments. Students will explore an introduction to prototyping and design concepts in a 3D environment. 3D software will be utilized to produce properly detailed construction drawings, using multi-views, section views, and auxiliary views. Proper, industry standard dimensioning with basic tolerances will be discussed and applied to parts. Emphasis will be placed on the theory as well as the mechanics of concepts using 3D and 2D applications. Upon completion, student will produce 3D models in a CAD environment, simple prototype models and working drawings based on proper industry standards.</p>	10	12
2019-2020	920617	APPLIED INDUSTRIAL ROBOTICS (ABB)	<p>This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program</p>	10	12
2019-2020	920618	APPLIED INDUSTRIAL ROBOTICS (CLOOS)	<p>This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.</p>	10	12
2019-2020	920619	APPLIED INDUSTRIAL ROBOTICS (FANUC)	<p>This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.</p>	10	12
2019-2020	920620	APPLIED INDUSTRIAL ROBOTICS (KAWASAKI)	<p>This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.</p>	10	12
2019-2020	920621	APPLIED INDUSTRIAL ROBOTICS (KUKA)	<p>This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.</p>	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920622	APPLIED INDUSTRIAL ROBOTICS (MOTOMAN)	This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.	10	12
2019-2020	920623	APPLIED INDUSTRIAL ROBOTICS (MITSUBISHI)	This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.	10	12
2019-2020	920624	APPLIED INDUSTRIAL ROBOTICS (OTC)	This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.	10	12
2019-2020	920625	INTRODUCTION TO FLEXIBLE MANUFACTURING CELLS	This course covers techniques involved when grouping related machines for the purpose of completing a series of manufacturing processes in a flexible manufacturing cell. The student will be involved with the computerized integration of programmable control systems such as robotics, machine tools, and other peripheral equipment to emulate real-world manufacturing concepts employed in flexible manufacturing cells.	10	12
2019-2020	920626	Design Innovation	This course introduces students to concepts that enable them to think like a designer when approaching architectural, engineering and additive manufacturing tasks. Emphasis will be placed on design and problem-solving skills when working independently, or with a team. This course focuses on giving students exposure to creativity, problem solving skills, and the design processes in which a design-centered approach will be employed to develop innovated solutions. This course includes components to develop basic skills to express innovated solutions to design problems with the application of projects, drawings, as well as oral and written communication skills. Students will be introduced to related computer based tools used by architect, engineers, and design manufacturers. (e.g., spreadsheet, word processing, presentation software, and Internet).	10	12
2019-2020	920627	Additive Manufacturing Production Techniques	In this class, students will utilize the various Additive Manufacturing (AM) design software to learn different techniques of building additively. Student will engage in using the software and build theory to discover best build for the part. Tool paths, angles, rotation and build support will be discussed. Additive process will include polymers and powders. Cost and build time will be calculated on the different build parameters	10	12
2019-2020	920801	ARCHITECTURAL DRAWING	The purpose of this course is to introduce students to the tools and techniques used to produce architectural working drawings. This will include using proper lettering and line value techniques in creating the components of architectural working drawings. Upon completion of this course the student will know how to draw plans, elevations, schedules, and details.	10	12
2019-2020	920802	WORKING DRAWINGS	The purpose of this course is to teach the student to create and draw a set of architectural working drawings and formalize specifications. This will include a set of architectural working drawings and specifications. Upon completion of this course the student will be able to create working drawings and specifications for a building that will include a plot plan, foundation plan, floor plans, elevations, details, and a set of written specifications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	920803	BASIC ARCHITECTURAL CAD	The purpose of this course is to introduce the student to architectural computer-aided drafting (CAD). This will include zooming, snapping, coordinate schemes, copying, moving, plotting, layers, trimming, offsetting, filleting, breaking, blocking, inserting, and dimensioning. Upon completion of this course, a student will be able to draw and dimension basic floor plans and other components of architectural working drawings.	10	12
2019-2020	920804	BASIC BUILDING INFORMATION MODELING (BIM)	The purpose of this course is to introduce the student to the basics of Building Information Modeling (BIM). Industry-driven BIM software will be utilized to create accurate and effective building models. Emphasis will be placed on providing the student with the fundamental tools and techniques used to simultaneously create 2D drawings and 3D models using BIM software. Fundamental concepts include, user interface, parameters, families, massing, rendering and printing.	10	12
2019-2020	920805	ADVANCED ARCHITECTURAL CAD	This course provides instruction in 3D design modeling utilizing the 3D capabilities of CAD software. Emphasis is placed on 3D wireframe, surface and solid modeling along with the development of 2D working drawings from 3D models. Upon completion of this course, the student will understand the techniques and commands used in computer aided drafting which are necessary to create architectural drawings and 3D models.	10	12
2019-2020	920806	ENERGY DESIGN OF BUILDINGS	In this course students are introduced to energy conservation in building design. The course includes the design of alternative energy systems. Upon completion of this course, the student will be able to explain energy conservation, explain how and why buildings use energy, demonstrate passive solar heating, and be able to design a super-insulated building.	10	12
2019-2020	920807	STRUCTURAL DESIGN OF BUILDINGS	This course introduces the student to the structural components of building design and the materials used in these components. This will include the materials of wood, steel, and concrete, with the emphasis on wood and concrete. Upon completion of this course, the student will be able to design decking, joists, beams, girders, and columns.	10	12
2019-2020	920808	BUILDING AND ZONING CODE	Students learn the basic principles of building and zoning codes. The course includes the study of fire and life safety design and construction requirements and zoning regulations. Upon completion of this course, the student will be able to apply building code and zoning code requirements in planning and designing buildings.	10	12
2019-2020	920809	ADVANCED DESIGN	This is the third in a series of design courses in which students further refine the essential elements of form and space. Upon completion of this course, the student will be able to select, test, and manipulate those elements into a coherent, meaningful and useful organization of space, structure, and enclosure.	10	12
2019-2020	920810	BUILDING INFORMATION MODELING (BIM)	The purpose of this course is to introduce the student to Building information Modeling (BIM). The course will provide the student with tools and techniques used to transform 2d drawings into 3d models using Building Information Modeling software. Emphasis will be placed on increasing the students understanding of a design, bid, build construction project by creating or simulating construction process virtually.	10	12
2019-2020	920811	ADVANCED BUILDING INFORMATION MODELING (BIM)	The purpose of this course is to expand on the skills learned in AET 191. Industry-driven BIM software will be utilized to create accurate and useful building models while further exposing students to the power and potential of BIM and its impact on the Architecture, Engineering and Construction Industry. Emphasis will be placed on the information component of BIM. BIM software will be used to create detailed construction documents, as well as, basic 3D model presentation techniques, project phasing, managing design options, collaboration/teamwork and creating custom content.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921001	SCIENTIFIC PRINCIPLES OF AGRICULTURAL PRODUCTION	This course introduces students to concepts and practices of modern farming operations. Topics include basic biology and chemistry needed in the production of farm products. Upon course completion, students will be able to demonstrate an understanding of basic chemical and biological principles associated with crop and livestock production.	10	12
2019-2020	921002	POULTRY PRODUCTION	This course focuses on the basic technical aspects of poultry production. Topics include housing, growing contacts, heating and cooling, nutrition, economics, and poultry health. Upon course completion, students will be able to develop a poultry production and marketing plan.	10	12
2019-2020	921003	AGRICULTURAL EQUIPMENT REPAIR AND MAINTENANCE	This course focuses on the repair and maintenance of agricultural equipment. Emphasis is placed on welding and other mechanical practices pertaining to small engines, tractors, implements and harvesters. Upon course completion, students will be able to perform basic repair and maintenance procedures on agricultural equipment.	10	12
2019-2020	921004	AGRICULTURAL DRAINAGE	This is a basic course in soil erosion management. Topics include reclamation procedures, terracing techniques, and construction of waterways and ponds. Upon course completion, students will be able to apply appropriate measures to prevent soil erosion.	10	12
2019-2020	921201	INTRODUCTION TO HORTICULTURE	This course provides students with foundational knowledge relative to the horticulture profession. Specific topics include information regarding the horticulture industry, safety practices, basic botany, and general plant care and culture.	10	12
2019-2020	921202	ORNAMENTAL PLANT I.D. I	This course is a study of the identification, habits of growth, cultural requirements, and landscape use of ornamental plants of the southeastern United States. Emphasis will be placed on plants that have their greatest design impact during the semester in which the course is taught. The student will learn the common botanical names of a significant number of landscape plants and demonstrate knowledge of the appropriate use of each plant.	10	12
2019-2020	921203	ORNAMENTAL PLANT I.D. II	This course is a study of the identification, habits of growth, cultural requirements, and landscape use of ornamental plants of the southeastern United States. Emphasis will be placed on plants that have their greatest design impact during the semester in which the course is taught. The student will learn the common and botanical names of a significant number of landscape plants and demonstrate knowledge of the appropriate use of each plant.	10	12
2019-2020	921204	TURF MANAGEMENT	This course is the study of all major southern lawn and sport grasses, their establishment and maintenance. Topics include turf equipment, fertilizers, insect and disease problems, and mowing techniques. Upon course completion, students will be able to evaluate the quality of an existing turf area and prescribe a maintenance program for turf used for lawns, playing fields and parks.	10	12
2019-2020	921205	RESIDENTIAL LANDSCAPE DESIGN	This course provides an overview of the fundamentals of residential site design. Topics include site measuring and base map preparation, functional diagrams, landscape design principles, drafting and drawing procedures, design principles, appropriate use of plant materials, planting, site preparation, and spatial composition. Upon course completion, students will be able to develop a master plan for a residential property.	10	12
2019-2020	921206	ADVANCE LANDSCAPE DESIGN	This course is a continuation of landscape design I and will include design principles as they relate to private residential properties, commercial properties, and public recreational areas. Topics to be covered will include; proposal development, client relations, and presenting a portfolio. The student will develop a project portfolio for presentation giving cost estimate and time required for installation.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921207	LANDSCAPE CONSTRUCTION	This course is designed to enhance student's skills needed to perform specific tasks related to ornamental horticulture. Topics are based on the season of the year in which the course is taught and the activities currently being performed by workers in the industry. Students are given the opportunity to demonstrate their ability to perform the seasonal application taught in the course.	10	12
2019-2020	921208	LANDSCAPE INSTALLATIONS	This course covers the basic techniques involved in the installation of landscape plants. Major topics will include reading a site plan, planting various types and sizes of plant material, staking and guying, and site preparation. Students will demonstrate the ability to place plants on a site as specified on a landscape drawing.	10	12
2019-2020	921209	LANDSCAPE MAINTENANCE	This course focuses on maintaining plant materials and turf in an existing landscape. Topics include pruning, mowing techniques, pest management, and selection of maintenance equipment. Upon course completion, students will be able to demonstrate landscape maintenance techniques and will be able to prepare labor-time estimates and cost analysis for maintaining landscapes.	10	12
2019-2020	921210	LANDSCAPE PRACTICUM	This course provides work experience in a college-approved setting in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion of this course, the student will have applied knowledge gained in the Landscape Technology curriculum.	10	12
2019-2020	921211	SOIL SCIENCE	This course focuses on the biological, chemical and physical aspects of soil with an emphasis on soil as a medium for plant growth. Topics include fertilization, soil structure, soil classification, erosion control, and soil chemistry. Upon course completion, students should be able to demonstrate an understanding of effective soil fertility management, and conservation practices.	10	12
2019-2020	921212	AGRIBUSINESS MANAGEMENT	This course focuses on practices essential to establishing and maintaining an agribusiness. Topics include personnel management, finance, customer service, insurance, and record keeping. Upon course completion, students will demonstrate an understanding of the requirements to comply with mandated state and federal regulations, manage employees, and meet consumer demands.	10	12
2019-2020	921213	PEST MANAGEMENT	This course provides student with foundational knowledge of techniques to manage various types of pests commonly associated with landscape management and horticulture. Specifically students receive instruction on managing common weeds, insects, and diseases. This is a CORE course.	10	12
2019-2020	921214	NURSERY PRODUCTION	This course focuses on all aspects of producing, plants in a nursery. Topics include soil and other media for plant growth, container selection, plant propagation, watering and fertilization, pest control, and production practices commonly used by commercial growers. Upon course completion, students will be able to demonstrate proficiency in all phases of nursery plant productions.	10	12
2019-2020	921401	ENGINE THEORY AND PROPELLERS	This course provides an overview of the theory, construction, and operation of aircraft reciprocating engines and the physical laws and characteristics governing propeller operation. Emphasis is placed on gaining a basic understanding of reciprocating engines and of fixed and variable pitch propellers. Upon completion, students should understand the inspection, service, and repair requirements of reciprocating engines; be able to demonstrate an understanding of propeller fundamentals; and remove, troubleshoot, and install propellers.	10	12
2019-2020	921402	RECIPROCATING ENGINE SYSTEMS	This course focuses on the inspection, troubleshooting, and repair of reciprocating engine systems. Emphasis is on inspection, troubleshooting, and repairs of ignition systems, fuel and induction systems, lubrication systems, and cooling and exhaust systems. Upon completion, students should be able to inspect, service, troubleshoot, and repair ignition, lubrication, fuel, induction, and cooling and exhaust systems. This is a CORE course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921403	RECIPROCATING ENGINE OVERHAUL	This course is a study of theory, construction, operation, and timing mechanisms associated with aircraft reciprocating powerplant; overhaul to include disassembly, cleaning, measuring, inspecting, reassembly and troubleshooting in accordance with appropriate FAA and manufacturers' regulations and practices. Emphasis is placed on overhauling a reciprocating engine. Upon completion, students should be able to overhaul a reciprocating engine. This is a CORE course.	10	12
2019-2020	921404	RECIPROCATING ENGINE INSPECTION	This course is a study of engine instruments, electrical systems, ignition systems and aircraft Powerplant inspections, as well as the study of rotary wing aircraft, rotary wing aerodynamics, main and tail rotor systems, rotor blades, primary and secondary controls, and general maintenance practices. Emphasis is placed on the theory of operation of these systems, analysis of system performance and faults, interpretations of instrument indications, and the performance of powerplant conformity and airworthiness inspections. Upon completion, students should be able to read and interpret instrument readings, analyze faults in instruments and electrical and ignition systems, and perform conformity and airworthiness inspections of reciprocating engines. This is a CORE course.	10	12
2019-2020	921405	TURBINE ENGINE THEORY AND INSPECTIONS	This course introduces the turbine engine. Emphasis is placed on turbine engine development, application, theory, components, materials and construction, and operating and power extraction principles. Upon completion, students should be able to explain turbine engine theory and operating principles, describe procedures for 100-hour and Boroscope inspections, and perform a hot section inspection by disassembling and reassembling a turbine engine. This is a CORE course.	10	12
2019-2020	921406	TURBINE ENGINE SYSTEMS OVERHAUL	This course provides a study of turbine engine systems. Emphasis is placed on starter, ignition, anti-ice, fire detection, and fire extinguishing systems. Upon completion, students should be able to troubleshoot, and repair turbine engine systems; remove and install engines in test cell and airframes; explain engine analysis and troubleshooting techniques; and describe correct procedures for rigging and running a turbine engine. This is a CORE course.	10	12
2019-2020	921407	POWERPLANT COMPREHENSIVE	This course is a comprehensive examination of all program areas. Emphasis is on demonstrating a mastery of all subjects covered in the program. Upon successful completion, students will receive authorization to sit for the appropriate Federal Aviation Administration (FAA) examination. This is a CORE course.	10	12
2019-2020	921408	POWERPLANT PROGRAM REVIEW AND COMPREHENSIVE TESTING	This course is a combination self-directed program review and comprehensive examination covering all materials in the generals and/or power plant courses. Students successfully completing the course will be certified as eligible to take the Federal Aviation Administration (FAA) General and Powerplant written examination.	10	12
2019-2020	921601	TECHNICAL PREPARATION	This course introduces basic information necessary for entering students in aviation maintenance technology. Emphasis is placed on math and physics, aircraft weight and balance, and Federal Aviation Administration (FAA) and manufacturers' technical and legal publications. Upon completion, students should be able to make basic computations, apply principles of physics, compute weight and balance, use maintenance forms and records, state mechanic's privileges and limitations, and interpret maintenance publications.	10	12
2019-2020	921602	BASIC ELECTRICITY	This course provides a study in electricity. Emphasis is placed on alternating current (AC) and direct current (DC) circuits and controls, electrical measurements, electrical test equipment, aircraft batteries, fundamental electronics, and semi-conductor devices. Upon completion, students should be able to solve problems associated with electrical measurements, use basic electrical test equipment, and service aircraft batteries.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921603	MATERIALS AND PROCESSES	This course introduces aircraft hardware and materials, precision measuring and non-destructive testing, aircraft ground operations, fuels, cleaning and corrosion control methods, and the use of aircraft drawings. Emphasis is on identification and selection of aircraft hardware, performance of non-destructive testing, fabrication and inspection of flexible fluid lines, identification of fuels, use of cleaning materials, and corrosion control programs. Upon completion, students should be able to perform non-destructive tests, use precision measuring tools, fabricate and install rigid and flexible fluid lines, select hardware and fuels, handle and secure an aircraft, and identify, read, create and interpret aircraft drawings.	10	12
2019-2020	921604	NON-METALLIC STRUCTURES AND WELDING	This course is a study of repairs to non-metallic aircraft surfaces and structures and welding. Emphasis is placed on repairs to fabric surfaces and to wood, composite, and steel structures. Upon completion, students should be able to repair fabric surfaces and apply finishing materials, make repairs to wood structures, layout and form composite structures, and make repairs to steel structures using various welding methods.	10	12
2019-2020	921605	AIRCRAFT SHEET METAL STRUCTURES	This course introduces aircraft sheet metal repairs. Emphasis is placed on the use of proper procedures, tools, and materials to complete sheet metal repairs. Upon completion, students should be able to install conventional rivets; form, layout, and bend sheet metal; install special rivets and fasteners; inspect and repair sheet metal structures.	10	12
2019-2020	921606	AIRFRAME SYSTEMS I	This course introduces aircraft electrical, communication, and navigation systems and components. Emphasis is placed on inspecting, repairing, installing, adjusting, and troubleshooting aircraft alternating and direct current electrical systems. Upon completion, students should know the operation and theory of generators, alternators, and starters; be able to fabricate wiring; and inspect, troubleshoot, and repair lighting, communication, and navigation systems.	10	12
2019-2020	921607	AIRFRAME SYSTEMS II	This course introduces aircraft inclement weather control, fire protection and fuel systems as well as cabin environmental control, and instrumentation. Emphasis is placed on theory and skills necessary to inspect, service, maintain and troubleshoot. Upon completion, students should be able to inspect, repair, troubleshoot and understand operating principles of ice and rain removal, fire protection, cabin environmental, instruments and fuel systems.	10	12
2019-2020	921608	AIRFRAME SYSTEMS III	This course introduces the theory of operation of various hydraulic and pneumatic components and systems, landing gear systems, and various position and warning systems. Emphasis is on testing, inspecting, troubleshooting, and servicing hydraulic and pneumatic system components, wheel and brake systems, and position and warning systems. Upon completion, students should be able to inspect, troubleshoot, and repair hydraulic and pneumatic power systems, aircraft wheels and tires, aircraft landing gear systems, anti-skid and electrical braking systems, and position and warning systems.	10	12
2019-2020	921609	AIRFRAME SYSTEMS IV	This course introduces aircraft structural assembly and rigging, helicopters, and required inspections. Emphasis is placed on skills required to inspect, service, maintain, and troubleshoot airframes, airframe systems, and components and assemble and rig aircraft structures. Upon completion, students should be able to inspect, repair, troubleshoot, assemble and rig aircraft structures and determine conditions of airframes, airframe systems, and components.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921610	AIRFRAME COMPREHENSIVE TESTING	This course is a comprehensive examination of all program areas. Emphasis is on demonstrating a mastery of all subjects covered in the program. Upon successful completion, students will receive authorization to sit for the appropriate Federal Aviation Administration (FAA) examination.	10	12
2019-2020	921611	AIRFRAME PROGRAM REVIEW AND COMPREHENSIVE TESTING	This course is a combination self-directed program review and comprehensive examination covering all materials in the generals and/or airframe courses. Students successfully completing the course will be certified as eligible to take the Federal Aviation Administration (FAA) General and Airframe written examination.	10	12
2019-2020	921612	FUNDAMENTALS OF ADVANCED COMPOSITE MATERIALS	This course introduces the student to the safety aspects, history, development, and future of advanced composite materials. Topics include: proper handling of composite materials, personal protective equipment (PPE) to be used in the composite work environment, chemical hazards associated with the composite work environment, HAZMAT workplace requirements (OSHA), HAZMAT transportation issues, disposal of composite waste materials, composite history and trends of composite use, advantages and disadvantages of composite technology, uses of composite materials in aircraft construction, hand tools used in the repair of composite structures, shop equipment used in the repair of composite structures, safety procedures for handling cutting, drilling, grinding, and sanding tools.	10	12
2019-2020	921613	INTRODUCTION TO NON-DESTRUCTIVE TESTING OF COMPOSITE MATERIALS	This course introduces the student to defect and damage inspection of advanced composite materials and components using task-specific, state-of-the-art test equipment. Topics include: types of non-destructive testing and inspection methods, inspection/testing of composite laminated primary and secondary structures, removal and inspection of fiberglass, plastics, honeycomb, composite and laminated primary and secondary structures, testing and repair of fiberglass, plastics, honeycomb, composite and laminated primary and secondary structures.	10	12
2019-2020	921614	FOUNDATIONS OF UNMANNED AIRCRAFT SYSTEMS	This course provides an overview of unmanned aircraft systems (UAS) components, history, current uses, future initiatives, and UAS airspace integration. UAS theory and research form the basis for a critical and detailed examination of UAS maintenance compliance and procedures.	10	12
2019-2020	921615	GROUND CONTROL STATION LAUNCH, RECOVERY, AND SUPPORT SYSTEMS	This course provides students with an overview and working knowledge of the unmanned aircraft systems (UAS) ground control station (GCS), launch, recovery, and support systems and associated components, including maintenance practices and safety considerations.	10	12
2019-2020	921616	ADVANCED COMPOSITES FABRICATION AND REPAIR	This course provides an overview of composite versus advanced composite technology utilizing a historical perspective of development in advanced composite technology. This course also covers the typical application of advanced composite materials repair as utilized in aviation, marine, and automotive industries. Topics include: uses of composite technology as applied to aircraft structures, including current repair and inspection techniques that ensure safe operation of systems, hot bonding curing equipment and techniques, autoclave curing, adhesive bond line failure modes, surface preparation and cleanliness, bond line quality determination, co-curing vs. secondary bonding, permanent vs. temporary repairs, use of repair instructions and limitations (SRM)	10	12
2019-2020	921617	UNMANNED AIRCRAFT AIRFRAMES, AIRFRAME SUBSYSTEMS, AND PROPULSION SYSTEMS	This course covers maintenance operations on commonly used unmanned aircraft airframe and powerplant systems. Students learn preventative maintenance and services, troubleshooting, repairs, and system functions	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921618	UNMANNED AIRCRAFT SYSTEMS AVIONICS, COMMUNICATIONS, AND ELECTRONICS	This course introduces students to unmanned aircraft avionics, communications, and electronics systems. Course content includes the installation, maintenance, testing, replacement, and repair of communication, navigation, and flight operations equipment.	10	12
2019-2020	921801	WELDING PRINCIPLES, THEORY, AND SYMBOLS	This is a theory and skill-based course in basic welding (gas and arc), plasma arc, brazing, soldering, and cutting processes used in maintenance and manufacturing. Other theory topics include forge, submerged arc, electroslag, stud arc, resistance, ultrasonic, electron beam, and laser beam welding. Students use welding symbols, joint designs, and weld positions to prepare specimens. The course also covers terminology, standards for welding acceptable and unacceptable welds, safety, and qualification tests.	10	12
2019-2020	921802	GAS TUNGSTEN ARC AND PLASMA ARC WELDING	This course describes processes, methods, and skills required to produce acceptable welds with gas tungsten arc welding (GTAW) and plasma arc welding (PAW) equipment for aerospace hardware; the standard of acceptability is AWS D17.1:2001 (or latest revision). Topics include equipment, tooling, shielding gases, arc characteristics, welding techniques, non-consumable electrodes, filler metals, base materials, and related safety. Instruction covers manual, semi-automatic, and automatic welding procedures. This supports CIP code 15.0801.	10	12
2019-2020	921803	ELECTRICAL/ELECTRONIC ASSEMBLY	This mechanics of electrical/electronics assembly course covers materials and wire configurations, tools for wire preparation and assembly, wire stripping, connection requirements, terminal assembly, solder connections, crimp connections, solder splices, shield terminations, tying and lacing, hardware installation, inspection, testing, safety, and industry specifications/standards. Worker proficiency certification in IPC/WHMA-A-620, "Requirements for Acceptance for Cable and Wire Harness Assemblies," is covered but certification testing is not a requirement to receive credit for the class. This supports CIP code 15.0801.	10	12
2019-2020	921804	AEROSPACE MECHANICAL ASSEMBLY	This course is a study of mechanical assembly processes applied in aerospace and related manufacturing industries. Topics include orbital tube welding (setup, programming, and tube preparation, drilling techniques, torquing techniques, fastener installation, related attachments, and safety. This supports CIP code 15.0801.	10	12
2019-2020	921805	SPECIALIZED WELDING PROCESSES	This course is an overview of the basics of metals joining. Topics include safety and diffusion bonding and an overview of welding processes such as resistance, laser, electron beam, ultrasonic, friction, inertia, explosion, upset, thermite, and forge. Also included is a review of the gas tungsten arc welding (GTAW), plasma arc welding (PAW), and orbital tube welding processes. This supports CIP code 15.0801.	10	12
2019-2020	921806	WELDING CERTIFICATION PREPARATION	This course details the requirements for welder/welding operator certification in the aerospace industry. Training includes gas tungsten arc welding (GTAW) and plasma arc welding (PAW) processes and equipment and related safety. Emphasis is on materials in Groups I, II, III, and IV as defined in AWS D17.1:2001. This supports CIP code 15.0801.	10	12
2019-2020	921807	INSTRUMENTATION ATTACHMENTS AND ADHESIVE BONDING PROCEDURES	This course covers the use and installation techniques of instruments such as thermocouples, temperature sensors, and strain gages on different types of aircraft and structures. Topics include bonding materials, soldering techniques, electrical testing of temperature sensors and strain gages, mixing and applying adhesives for pressure, the effects of corrosion and weather, fuel tank sealing, adhesive selection, and safety. This supports CIP code 15.0801	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	921808	COMPOSITE MATERIALS FABRICATION AND ASSEMBLY	This is a course in composite materials manufacturing. Topics include design and manufacturing techniques such as wet layups, prepregs, vacuum bagging, and filament winding. The course also covers the history of composite manufacturing, types of materials used in composite component fabrication, drilling and repair techniques, and related safety. This supports CIP code 15.0801.	10	12
2019-2020	921809	SURFACE PREPARATION AND COATINGS	This course is a study of component surface preparation for various coating and painting applications. The content includes color development, paint booth operation (electrical and air system), wet and dry coating thickness measurement, manual and automated coating techniques, and general and hazardous material handling safety. This supports CIP code 15.0801.	10	12
2019-2020	921810	SPECIALIZED COATING PROCESSES	This course is a study in special coatings for aerospace structures. Topics include mixing, applying, and curing of coating materials, environmental effects on coating materials, and general and hazardous material handling safety. The course also covers equipment used in these processes. Supports 15.0801.	10	12
2019-2020	922001	PRINCIPLES OF REFRIGERATION	This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common, and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. Upon completion, students should identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system.	10	12
2019-2020	922002	HVACR SERVICE PROCEDURES	This course covers system performance checks and refrigerant cycle diagnosis. Emphasis is placed on the use of refrigerant recovery/recycle units, industry codes, refrigerant coils and correct methods of charging and recovering refrigerants. Upon completion, students should be able to properly recover/recycle refrigerants and demonstrate safe, correct service procedures which comply with the no-venting laws.	10	12
2019-2020	922003	REFRIGERATION PIPING PRACTICES	The course introduces students to the proper installation procedures of refrigerant piping and tubing for the heating, ventilation, air conditioning and refrigeration industry. This course includes various methods of working with and joining tubing. Upon completion, students should comprehend related terminology, and be able to fabricate pipe, tubing, and pipe fittings. This is a CORE course.	10	12
2019-2020	922004	FUNDAMENTALS OF GAS HEATING SYSTEMS	This course provides instruction on general service and installation for common gas furnace system components. Upon completion, students will be able to install and service gas furnaces in a wide range of applications.	10	12
2019-2020	922005	FUNDAMENTALS OF ELECTRIC HEATING SYSTEMS	This course covers the fundamentals of electric furnace systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, students should be able to install and service electric furnaces, heat pumps, and solar and hydronics systems.	10	12
2019-2020	922006	PRINCIPLES OF ELECTRICITY FOR HVACR	This course is designed to provide the student with the basic knowledge of electrical theory and circuitry as it pertains to air conditioning and refrigeration. This course emphasizes safety, definitions, symbols, laws, circuits, and electrical test instruments. Upon completion students should understand and be able to apply the basic principles of HVACR circuits and circuit components. This is a CORE course.	10	12
2019-2020	922007	HVACR ELECTRIC CIRCUITS	This course introduces the student to electrical circuits and diagrams. Electrical symbols and basic wiring diagrams are constructed in this course. Upon completion, student should understand standard wiring diagrams and symbols and be able to construct various types of electrical circuits. This is a CORE course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922008	HVACR ELECTRICAL COMPONENTS	This course introduces students to electrical components and controls. Emphasis is placed of the operations on motors, relays, contactors, starters, and other HVAC electrical components. Upon completion, students should be able to install electrical components and determine their proper operation. This is a CORE course	10	12
2019-2020	922009	FUNDAMENTALS OF GAS AND ELECTRICAL HEATING SYSTEMS	This course provides instruction on general service and installation for common gas and electrical heating systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, students will be able to install and service gas and electrical heating systems in a wide range of applications. NOTE: This course is a suitable substitution for ASC 119 and 120 if those both courses are taken.	10	12
2019-2020	922010	COMMERCIAL HEATING SYSTEMS	This course covers the theory and application of larger heating systems. Emphasis is placed on larger heating systems associated with commercial applications such as gas heaters, boilers, unit heaters, and duct heaters. Upon completion, student should be able to troubleshoot and perform general maintenance on commercial heating systems.	10	12
2019-2020	922011	HVACR ELECTRIC MOTORS	This course covers the basic maintenance of electric motors used in HVAC/R systems. Topics include types of motors, motor operations, motor installation, and troubleshooting motors. Upon completion student should be able to install and service HVAC/R electric motors.	10	12
2019-2020	922012	HEAT LOAD CALCULATIONS	This course focuses on heat flow into and out of building structures. Emphasis is placed on determining heat gain/heat loss of a given structure. Upon completion, students should be able to calculate heat load and determine HVAC equipment size requirements.	10	12
2019-2020	922013	RESIDENTIAL AIR CONDITIONING	This course introduces students to residential air conditioning systems. Emphasis is placed on the operation, service, and repair of residential air conditioning systems. Upon completion, students will be able to service and repair residential air conditioning systems.	10	12
2019-2020	922014	DOMESTIC REFRIGERATION	This course covers domestic refrigerators and freezers. Emphasis is placed on installation, removal, and maintenance of components. Upon completion, students should be able to service and adjust domestic refrigeration units.	10	12
2019-2020	922015	ICE MACHINES	This course introduces students to commercial ice machines. Emphasis is placed on components, electrical and mechanical operation sequences, control adjustment procedures, preventive maintenance, repairs, and installation procedures. Upon completion, student should be able to install, service and repair commercial ice machines.	10	12
2019-2020	922016	MECHANICAL/GAS/SAFETY CODES	This course is to enhance the student's knowledge of the International Fuel Gas Code and International Mechanical Code as well as fire and job safety requirements. Emphasis is placed on code book content and compliance with installation requirements. Upon completion, students should be able to apply code requirements to all work.	10	12
2019-2020	922017	CUSTOMER RELATION IN HVAC	This course covers the basic aspects of customer relations needed be the HVAC technician. Topics include employability skills associated with job performance, record keeping, service invoices, certification requirements, local ordinances, and business ethics. Upon completion, students should be able to get a job and keep it.	10	12
2019-2020	922018	AUTOMOTIVE AIR CONDITIONING	This course focuses on commercial refrigeration systems. Emphasis is placed on overall operation, troubleshooting and maintenance of commercial refrigeration systems. Upon completion students should be able to service and repair commercial refrigeration systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922019	REFRIGERANT TRANSITION AND RECOVERY THEORY	This course is EPA-approved and covers material relating to the requirements necessary for type I, II, and III universal certification. Upon completion, students should be prepared to take the EPA 608 certification examination.	10	12
2019-2020	922020	HEAT PUMP SYSTEMS I	Instruction received in this course centers around the basic theory and application of heat pump systems and components. Upon completion students will be able to install and service heat pumps in a wide variety of applications.	10	12
2019-2020	922021	HEAT PUMP SYSTEMS II	This is a continuation course of the basic theory and application of heat pump systems. Topics include the electrical components of heat pumps and their function. Upon completion student should be able to install and service heat pumps.	10	12
2019-2020	922022	BASIC SHEET METAL PROCESSES	This course provides instruction in sheet metal hand processes. Topics include the use of bench tools and hand brake, with an emphasis on bending, shearing and notching. This course also includes the principles of layout and design.	10	12
2019-2020	922024	HEAT PUMP SYSTEMS	This course provides instruction on the operation and servicing of heat pump systems. Emphasis is placed on theory and application of refrigerants for heat pump systems and on basic service of components. Students should possess a strong foundation of electrical principles and theory. Upon completion students will be able to install and service heat pumps. NOTE: Information in this course is identical to ASC 148 and 149 and may be used as an alternative to those courses.	10	12
2019-2020	922025	HVAC APPRENTICESHIP/INTERNSHIP	This course is designed to provide basic hands-on experiences in the work place. The student is provided with a training plan developed by the employer and instructor working together to guide the learning experience. Upon course completion, students should be able to work independently and apply related skills and knowledge. This course involves a minimum of 15 work hours per week.	10	12
2019-2020	922026	REVIEW FOR CONTRACTORS EXAM	This course prepares students to take the State Certification Examination. Emphasis is placed on all pertinent codes, piping procedures, duct design, load calculation, psychometrics, installation procedures, and air distribution. Upon completion, students should be prepared to take the contractors exam.	10	12
2019-2020	922027	COMMERCIAL REFRIGERATION	This course focuses on commercial refrigeration systems. Emphasis is placed on evaporators, condensers, compressors, expansion devices, special refrigeration components and application of refrigeration systems. Upon completion students should be able to service and repair commercial refrigeration systems.	10	12
2019-2020	922028	COMMERCIAL AIR CONDITIONING SYSTEMS	This course focuses on servicing and maintaining commercial and residential HVAC/R systems. Topics include system component installation and removal and service techniques. Upon completion, the student should be able to troubleshoot and perform general maintenance on commercial and residential HVAC/R systems.	10	12
2019-2020	922029	TROUBLESHOOTING HVACR SYSTEMS	This course provides instruction in the use of various meters and gauges used in the HVACR industry. Emphasis is placed on general service procedures, system diagnosis, and corrective measure, methods of leak detection, and system evacuation, charging and performance checks. Upon completion students should be able to perform basic troubleshooting of HVAC/R.	10	12
2019-2020	922201	FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY	This course provides basic instruction in Fundamentals of Automotive Technology.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922202	ELECTRICAL FUNDAMENTALS	This course introduces the principles and laws of electricity. Emphasis is placed on wiring diagrams, test equipment, and identifying series, parallel and series-parallel circuits. Upon completion, students should be able to calculate, build, and measure circuits. CORE	10	12
2019-2020	922203	BRAKING SYSTEMS	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of brakes. ABR 223 Automotive Mechanical Components is a suitable substitute for this course. This is a CORE course.	10	12
2019-2020	922204	STEERING AND SUSPENSION	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of steering and suspension. This is a CORE course. ABR 255 – Steering & Suspension is a suitable substitute for this course.	10	12
2019-2020	922205	AUTOMOTIVE ENGINES	This course provides instruction on the operation, design, and superficial repair of automotive engines. Emphasis is placed on understanding the four stroke cycle, intake and exhaust manifolds and related parts, engine mechanical timing components, engine cooling and lubrication system principles and repairs, and basic fuel and ignition operation. This is a CORE course.	10	12
2019-2020	922206	DRIVE TRAIN AND AXLES	This course provides basic instruction in automotive drive trains and axles. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and driveability. ABR 223 Automotive Mechanical Components is a suitable substitute for this course. This is a CORE course.	10	12
2019-2020	922207	MOTOR VEHICLE AIR CONDITIONING	This course provides basic instruction in theory, operation, and repair of automotive heating and air conditioning systems. Emphasis is placed on the understanding and repair of vehicle air conditioning and heating systems, including but not limited to air management, electrical and vacuum controls, refrigerant recovery, and component replacement. ABR 258 – Heating and AC in Collision Repair is a suitable substitute for this course.	10	12
2019-2020	922208	DEALERSHIP WORK EXPERIENCE	At the end of each on-campus period, the student returns to the sponsoring dealership to complete this segment of the program working full-time under the supervision of the dealership student work coordinator. He/she is expected to complete work assignments in the dealership that will reinforce and parallel the course work just completed at the college. Although indicated as 10 contact hours, students generally work on a full-time basis (40 hours per week) at the dealership. An evaluation of the student's in dealership work performance is completed by the dealership supervisor.	10	12
2019-2020	922209	ELECTRICAL AND ELECTRONIC SYSTEMS	This is an intermediate course in automotive electrical and electronic systems. Emphasis is placed on troubleshooting and repair of battery, starting, charging, and lighting systems, subsystems, and components. This is a CORE course.	10	12
2019-2020	922210	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	922211	ADVANCED ELECTRICAL AND ELECTRONIC SYSTEMS	This course provides instruction in advanced automotive electrical and electronic systems. Emphasis is placed on troubleshooting and repair of advanced electrical and electronic systems, subsystems, and components.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922212	ADVANCED AUTOMOTIVE ENGINES	This course provides in depth instruction concerning internal engine diagnosis, overhaul and repair, including but not necessarily limited to the replacement of timing chains, belts, and gears, as well as the replacement or reconditioning of valve train components as well as replacement of pistons, connecting rods, piston rings, bearings, lubrication system components, gaskets, and oil seals.	10	12
2019-2020	922213	MAN TRANSMISSION AND TRANSAXLE	This course covers basic instruction in manual transmissions and transaxles. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and driveability.	10	12
2019-2020	922214	AUTO TRANSMISSION AND TRANSAXLE	This course provides basic instruction in automatic transmissions and transaxles. Emphasis is placed on the comprehension of principles and powerflow of automatic transmissions and repairing or replacing internal and external components. This is a CORE course.	10	12
2019-2020	922215	ENGINE PERFORMANCE AND DIAGNOSTICS	This course provides basic instruction in engine performance with emphasis on fuel and ignition systems relating to engine operation. This is a CORE course.	10	12
2019-2020	922216	ENGINE PERFORMANCE AND DIAGNOSTICS	This course provides advanced instruction in engine performance. Emphasis is placed on engine management and computer controls of ignition, fuel, and emissions systems relating to engine performance and driveability. This is a CORE course.	10	12
2019-2020	922217	AUTOMOTIVE EMISSIONS	This is an introductory course in automotive emission systems. Emphasis is placed on troubleshooting and repair of systems, subsystems, and components.	10	12
2019-2020	922218	DEALERSHIP WORK EXPERIENCE	At the end of each on-campus period, the student returns to the sponsoring dealership to complete this segment of the program working full-time under the supervision of the dealership student work coordinator. He/she is expected to complete work assignments in the dealership that will reinforce and parallel the course work just completed at the college. Although indicated as 10 contact hours, students generally work on a full-time basis (40 hours per week) at the dealership. An evaluation of the student's in dealership work performance is completed by the dealership supervisor.	10	12
2019-2020	922219	DEALERSHIP WORK EXPERIENCE	At the end of each on-campus period, the student returns to the sponsoring dealership to complete this segment of the program working full-time under the supervision of the dealership student work coordinator. He/she is expected to complete work assignments in the dealership that will reinforce and parallel the course work just completed at the college. Although indicated as 10 contact hours, students generally work on a full-time basis (40 hours per week) at the dealership. An evaluation of the student's in dealership work performance is completed by the dealership supervisor.	10	12
2019-2020	922220	DEALERSHIP WORK EXPERIENCE	At the end of each on-campus period, the student returns to the sponsoring dealership to complete this segment of the program working full-time under the supervision of the dealership student work coordinator. He/she is expected to complete work assignments in the dealership that will reinforce and parallel the course work just completed at the college. Students generally work on a full-time basis (40 hours per week) at the dealership. An evaluation of the student's in dealership work performance is completed by the dealership supervisor.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922221	DEALERSHIP WORK EXPERIENCE	At the end of each on-campus period, the student returns to the sponsoring dealership to complete this segment of the program working full-time under the supervision of the dealership student work coordinator. He/she is expected to complete work assignments in the dealership that will reinforce and parallel the course work just completed at the college. Although indicated as 10 contact hours, students generally work on a full-time basis (40 hours per week) at the dealership. An evaluation of the student's in dealership work performance is completed by the dealership supervisor.	10	12
2019-2020	922222	DEALERSHIP WORK EXPERIENCE	At the end of each on-campus period, the student returns to the sponsoring dealership to complete this segment of the program working full-time under the supervision of the dealership student work coordinator. He/she is expected to complete work assignments in the dealership that will reinforce and parallel the course work just completed at the college. Students generally work on a full-time basis (40 hours per week) at the dealership. An evaluation of the student's in dealership work performance is completed by the dealership supervisor.	10	12
2019-2020	922223	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	922401	INTRODUCTORY ELECTRONICS FOR AUTOMATED MFG. TECHNOLOGY	This course is a conventional current flow of electronic devices and networks. Topics include semiconductor diodes, power supplies, bipolar-junction transistors, amplifiers, buffers, field-effect transistors, and thyristors. Upon completion of this course a student will be able to analyze a discrete-component electronic network.	10	12
2019-2020	922402	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.	10	12
2019-2020	922403	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	922404	ADVANCED MOTOR DRIVES	This course covers advanced AC and DC motor drives. Topics include various AC and DC drive systems, trouble-shooting, and DC motion control. Upon completion the student will have demonstrated the ability to connect and operate various AC and DC drives, measure and calculate drive parameters, trace process parameters using an oscilloscope, adjust and tune drive control systems, and troubleshoot AC and DC systems networks.	10	12
2019-2020	922405	ROBOTICS PROJECT	Topics include interfacing, robot applications, feedback, and advanced software concepts. Upon completion of this course as students will be able to program and operate an advanced robot.	10	12
2019-2020	922406	ROBOTICS PROJECT	In this course, students apply skills learned to design, fabricate, analyze, program, and/or operate a robotics system under faculty supervision.	10	12
2019-2020	922407	ROBOT OPERATION AND PROGRAMMING	This training course is designed to provide the basic skills needed to operate and program the robot cell. The course provides both classroom and performance based hands on training in the use of controls, operations, and part programming.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922408	ROBOTIC MANUFACTURING COMPUTER SIMULATION	This course covers the principles, techniques, and strategies of manufacturing simulation using computer simulation software. The course will cover concepts of simulation, simulation data management, kinematics, path development, robotic simulation, and simulated reach studies. When finished with this course, students will be able to apply these principles in the operation of industrial robotic equipment.	10	12
2019-2020	922601	FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY	This course provides basic instruction in Fundamentals of Automotive Technology. This is a CORE course.	10	12
2019-2020	922602	ELECTRICAL FUNDAMENTALS	This course introduces the principles and laws of electricity. Emphasis is placed on wiring diagrams, test equipment, and identifying series, parallel and series-parallel circuits. Upon completion, students should be able to calculate, build, and measure circuits. CORE	10	12
2019-2020	922603	BRAKING SYSTEM	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of brakes. ABR 223 Automotive Mechanical Components is a suitable substitute for this course. This is a CORE course.	10	12
2019-2020	922604	STEERING AND SUSPENSION	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application of steering and suspension. This is a CORE course. ABR 255 – Steering & Suspension is a suitable substitute for this course.	10	12
2019-2020	922605	AUTOMOTIVE ENGINES	This course provides instruction on the operation, design, and superficial repair of automotive engines. Emphasis is placed on understanding the four stroke cycle, intake and exhaust manifolds and related parts, engine mechanical timing components, engine cooling and lubrication system principles and repairs, and basic fuel and ignition operation. This is a CORE course.	10	12
2019-2020	922606	DRIVE TRAIN AND AXLES	This course provides basic instruction in automotive drive trains and axles. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and driveability. ABR 223 Automotive Mechanical Components is a suitable substitute for this course. This is a CORE course.	10	12
2019-2020	922607	MOTOR VEHICLE AIR CONDITIONING	This course provides basic instruction in theory, operation, and repair of automotive heating and air conditioning systems. Emphasis is placed on the understanding and repair of vehicle air conditioning and heating systems, including but not limited to air management, electrical and vacuum controls, refrigerant recovery, and component replacement. ABR 258 – Heating and AC in Collision Repair is a suitable substitute for this course.	10	12
2019-2020	922608	ELECTRICAL AND ELECTRONIC SYSTEMS	This is an intermediate course in automotive electrical and electronic systems. Emphasis is placed on troubleshooting and repair of battery, starting, charging, and lighting systems, subsystems, and components. This is a CORE course.	10	12
2019-2020	922609	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	922610	ADVANCED ELECTRICAL AND ELECTRONIC SYSTEMS	This course provides instruction in advanced automotive electrical and electronic systems. Emphasis is placed on troubleshooting and repair of advanced electrical and electronic systems, subsystems, and components.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922611	ADVANCED AUTOMOTIVE ENGINES	This course provides in depth instruction concerning internal engine diagnosis, overhaul and repair, including but not necessarily limited to the replacement of timing chains, belts, and gears, as well as the replacement or reconditioning of valve train components as well as replacement of pistons, connecting rods, piston rings, bearings, lubrication system components, gaskets, and oil seals.	10	12
2019-2020	922612	MAN TRANSMISSION AND TRANSAXLE	This course covers basic instruction in manual transmissions and transaxles. Emphasis is placed on the understanding and application of basic internal and external operation relating to proper operation and driveability.	10	12
2019-2020	922613	AUTO TRANSMISSIONS AND TRANSAXLE	This course provides basic instruction in automatic transmissions and transaxles. Emphasis is placed on the comprehension of principles and powerflow of automatic transmissions and repairing or replacing internal and external components. This is a CORE course.	10	12
2019-2020	922614	ENGINE PERFORMANCE	This course provides basic instruction in engine performance with emphasis on fuel and ignition systems relating to engine operation. This is a CORE course.	10	12
2019-2020	922615	ENGINE PERFORMANCE AND DIAGNOSTICS	This course provides advanced instruction in engine performance. Emphasis is placed on engine management and computer controls of ignition, fuel, and emissions systems relating to engine performance and driveability. This is a CORE course.	10	12
2019-2020	922616	AUTOMOTIVE EMISSIONS	This is an introductory course in automotive emission systems. Emphasis is placed on troubleshooting and repair of systems, subsystems, and components.	10	12
2019-2020	922617	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	922801	INTRODUCTION TO AUTOMOTIVE CONCEPTS	An introduction to automotive manufacturing concepts is the focus of this course. This course reviews the history of automotive manufacturing and discusses the automotive manufacturing processes for various automotive assembly and sub-assembly plants. It outlines the historical development of automotive manufacturing in Alabama. Finally the electro-mechanical systems and body components of a typical vehicle will be examined.	10	12
2019-2020	922802	FUNDAMENTALS OF AUTOMOTIVE TECHNOLOGY	This course provides basic instruction in Fundamentals of Automotive Technology. Emphasis will be placed on safety, harmful chemicals, basic hand tools, specialty tools, fasteners, precision measuring tools, power tools, shop equipment, shop operation, and careers in Automotive Technology. Upon completion the students should know whether they want to continue in the Automotive Technology field.	10	12
2019-2020	922803	LEAN MANUFACTURING AND INDUSTRIAL SAFETY	This course will introduce students to manufacturing fundamentals. It introduces various tools and techniques typically used in Lean manufacturing. It also will provide Occupational Safety and Health Administration (OSHA) certification instruction. OSHA standards will include electrical, Lock Out/ Tag Out, hazardous communications, personal protective equipment, machine guarding, and walking and working surfaces. This is a CORE course.	10	12
2019-2020	922804	OCCUPATIONAL HEALTH AND SAFETY	This course will cover safety rules and procedures concerning personal safety in the workplace. The course provides both classroom and performance based hands on training to inform personnel on OSHA rules and techniques to ensure safety.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922805	BLUEPRINT READING FOR MANUFACTURING	This course provides the students with terms and definitions, theory of orthographic projection, and other information required to interpret drawings used in the manufacturing and industrial trade areas. Topics include multiview projection, pictorial drawings, dimensions and notes, lines and symbols, tolerances, industrial applications, scales and quality requirements. Upon completion, students should be able to interpret blueprint drawings used in the manufacturing and industrial trades. This course may be tailored to meet specific local industry needs. CORE	10	12
2019-2020	922806	QUALITY CONTROL AND INSPECTION TECHNIQUES	This course provides the student with a basic understanding of quality assurance including the history of the quality movement in the United States; national and international standards for quality management systems; the impact of quality on an organization's performance; group problem solving; and statistical methods such as statistical process control (SPC); process capability studies, quality tools, idea generating tools, and corrective and preventive actions.	10	12
2019-2020	922807	DC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic direct current (DC) electrical principles. Topics include safety, basic atomic structure and theory, magnetism, conductors, insulators, use of Ohm's law to solve for voltage, current, and resistance, electrical sources, power, inductors, and capacitors. Students will perform lockout/tagout procedures, troubleshoot circuits and analyze series, parallel, and combination DC circuits using the electrical laws and basic testing equipment to determine unknown electrical quantities. CORE	10	12
2019-2020	922808	AC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic alternating current (AC) electrical principles. Topics include basic concepts of electricity, electrical components, basic circuits, measurement instruments, the laws of alternating current, and electrical safety with lockout procedures. Hands on laboratory exercises are provided to analyze various series, parallel, and combination alternating current circuit configurations containing resistors, inductors, and capacitors. Upon course completion, students will be able to describe and explain alternating current circuit fundamentals such as RLC circuits, impedance, phase relationships, and power factors. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems.	10	12
2019-2020	922809	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs. This is a CORE course.	10	12
2019-2020	922810	INTRODUCTION TO ROBOTICS	This course provides instruction in concepts and theories for the operation of robotic servo motors and power systems used with industrial robotic equipment. Emphasis is on the application of the computer to control power systems to perform work. Student competencies include understanding of the functions of hydraulic, pneumatic, and electrical power system components, ability to read and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance. This is a CORE course.	10	12
2019-2020	922811	AC/DC MACHINES	This course covers the theory and operation of DC motors single and three phase AC motors and the labs will reinforce this knowledge. Emphasis is placed on the various types of single and three phase motors, wiring diagrams, starting devices, and practical application in the lab.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922812	INTRODUCTION TO ENGINEERING TECHNOLOGY	This course is designed to introduce the student to the basic concepts, terminology, procedures associated with applied analytical skills needed to succeed in higher level courses. To include: engineering notation, use of scientific calculator, basic algebra, triangulation methods, basic geometry, and basic laws of electricity.	10	12
2019-2020	922813	ELEMENTS OF INDUSTRIAL CONTROL	This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, and the development of ladder logic using software. Upon completion of this course and AUT 122 a student will be able to configure and program a PLC.	10	12
2019-2020	922814	ELEMENTS OF INDUSTRIAL CONTROL LAB	This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated theory course a student should be able to configure and program a PLC.	10	12
2019-2020	922815	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	This course provides an introduction to hydraulics/pneumatics. Topics include hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. The lab enables students to test, troubleshoot and repair hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. Upon completion, students will be able to apply principles of hydraulic/pneumatics.	10	12
2019-2020	922816	PRINCIPLES OF TECHNOLOGY	This course provides an introduction to the application of the principles of physics in technology. Topics include fundamentals of mechanics, properties of matter, heat and temperature, electricity and magnetism, optics and modern physics.	10	12
2019-2020	922817	INDUSTRIAL MOTORS	This course focuses on basic information regarding industrial electrical motors. Upon completion students will be able to troubleshoot, remove, replace, and perform routine maintenance on various types of motors.	10	12
2019-2020	922818	MOTORS AND TRANSFORMERS I	This course covers motor operation, motor types, motor components, motor feeder and branch circuits. Topics include motor protection and motor control circuits. Upon lab completion students should be able to test motors, transformer types, and test for input and output voltage.	10	12
2019-2020	922819	PRINCIPLES OF REFRIGERATION	This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common, and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. Upon completion, students should identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system.	10	12
2019-2020	922820	PRINCIPLES OF INDUSTRIAL MECHANICS	This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment. Topics include the basic application of mechanical principles with emphasis on power transmission, specific mechanical components, alignment, and tension. Upon completion, students will be able to perform basic troubleshooting, repair and maintenance functions on industrial production equipment.	10	12
2019-2020	922821	INTRODUCTION TO ROBOTIC PROGRAMMING	This course provides an introduction robotic programming. Emphasis is placed on but not limited to the following: Safety, motion programming, creating and editing programs, I/O instructions, macros, program and file storage. Upon completion the student will be able to safely perform basic functions in the work cell as well as program a robot to perform simple functions.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922822	INDUSTRIAL WIRING	This course focuses on principles and applications of commercial and industrial wiring. Topics include, electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles.	10	12
2019-2020	922823	INTRODUCTION TO INJECTION MOLDING	Students learn the fundamentals of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify common part defects such as short shots, flash, warp, surface defects, color changes and shrinkage. Students learn the properties of commonly used molding materials.	10	12
2019-2020	922824	INTRODUCTION TO MACHINE SHOP I	This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	922825	INTRODUCTION TO MACHINE SHOP I LAB	This course provides practical application of the concepts and principles of machining operations learned in AUT 150. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	922826	MACHINING TECHNOLOGY I	This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, grinding machines, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, grinding, drilling, sawing, turning, and milling.	10	12
2019-2020	922827	LATHES	This course covers the operation and safety practices for engine lathes. Topics include turning, grinding, boring, chamfering, necking, grooving, and threading. Upon completion, students should be able to safely operate an engine lathe using appropriate attachments.	10	12
2019-2020	922828	METROLOGY	This course covers the use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion students should be able to demonstrate correct use of measuring instruments. This course is aligned with NIMS certification standards.	10	12
2019-2020	922829	GAS TUNGSTEN ARC WELDING	This course provides student with knowledge needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.	10	12
2019-2020	922830	GAS TUNGSTEN ARC WELDING LAB	This course provides student with skills needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922831	INTRODUCTION TO WELD TECHNOLOGIES & PROJECTION WELDING APPLICATIONS	This course provides an understanding of joint types; weld joint positions, and multi-positional weld techniques. Students will learn sound methods of fabrication, metallurgy, welding of dissimilar metals, and techniques in SMAW, GMAW, and GTAW. Upon completion of this course, students will know the safety concerns with respect to material welding and possess the knowledge and understanding to select the correct weld type and technique for job specific applications.	10	12
2019-2020	922832	PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING& METAL CUTTING TECHNIQUES	This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the maintenance and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting plate and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon course completion, students will demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment.	10	12
2019-2020	922833	AUTOMATED SYSTEM DIAGNOSIS AND TROUBLESHOOTING	This course focuses on systematically solving problems in automated systems. Emphasis is placed on safety, test equipment, basic troubleshooting techniques and hands on problem solving. Upon completion, students will be able to use a systematic process to solve complex malfunctions.	10	12
2019-2020	922834	INDUSTRIAL ROBOTICS	This course covers principles of electro-mechanical devices. Topics include the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion, students should be able to apply the principles of electro-mechanical devices.	10	12
2019-2020	922835	INDUSTRIAL ROBOTICS LAB	This lab covers the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion students should be able to apply the principles of electro-mechanical devices.	10	12
2019-2020	922836	ROBOT OPERATION AND PROGRAMMING	This training course is designed to provide the basic skills needed to operate and program the robot cell. The course provides both classroom and performance based hands on training in the use of controls, operations, and part programming.	10	12
2019-2020	922837	ROBOTICS PROJECT	In this course, students apply skills learned to design, fabricate, analyze, program, and/operate a robotics system under faculty supervision.	10	12
2019-2020	922838	ROBOTIC MANUFACTURING COMPUTER SIMULATION	This course covers the principles, techniques, and strategies of manufacturing simulation using computer simulation software. The course will cover concepts of simulation, simulation data management, kinematics, path development, robotic simulation, and simulated reach studies. When finished with this course, students will be able to apply these principles in the operation of industrial robotic equipment.	10	12
2019-2020	922839	ELEMENTS OF INDUSTRIAL CONTROL II	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	922840	ELEMENTS OF INDUSTRIAL CONTROL II LAB	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922841	PLC APPLICATIONS	This course introduces advanced PLC programming techniques. Topics include tags, parallel processing, program optimization, and advanced math instructions. Emphasis is placed on optimizing PLC functions. Upon completion students will be able utilize advanced instructions to control PLC functions.	10	12
2019-2020	922842	ADVANCED PRORAMMMABLE LOGIC CONTROLLERS	This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	922843	PREVENTIVE AND PREDICTIVE MAINTENANCE	This course focuses on the concepts and applications of preventive maintenance. Topics include the introduction of alignment equipment, job safety, tool safety, preventive maintenance concepts, procedures, tasks, and predictive maintenance concepts. Upon course completion, students will demonstrate the ability to apply proper preventive maintenance and explain predictive maintenance concepts.	10	12
2019-2020	922844	SENSORS TECHNOLOBY AND APPLICATIONS	This course provides a study of industrial electronic sensors. Topics include, but are not limited to, photo-electric, temperature, gas and humidity, pressure and strain sensors. The lab enables students to test, and troubleshoot electronic sensors and sensor circuits. Upon completion, students should be able to select, install, test, and troubleshoot industrial electronic sensors.	10	12
2019-2020	922845	INDUSTRIAL MOTOR CONTROLS I	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.	10	12
2019-2020	922846	INDUSTRIAL MOTOR CONTROLS II	This course covers complex ladder diagrams of motor control circuits and the uses of different motor starting techniques. Topics include wye-delta starting, part start winding, resistor starting and electronic starting devices. Upon completion, the students should be able to understand and interpret the more complex motor control diagrams and understand the different starting techniques of electrical motors.	10	12
2019-2020	922847	INTRODUCTION TO VARIABLE FREQUENCY DRIVES AND SERVO CONTROL	This course provides an introduction to variable frequency drives (VFD) and servo drive technology. Topics include the purpose of VFDs, general operating principles, analog and digital servo drives, and characteristics of practical servo systems. The Lab enables students to program, test, and run drives and motors. The removal and replacement of servo drives will also be discussed. Upon completion students will be able to apply principles of VFD and servo drives.	10	12
2019-2020	922848	COMLUTER INTEGRATED MANUFACTURING	This course is a basic introduction to concepts related to the computer integrated manufacturing (CIM) process. Students cover the design requirements associated with such a cell (center), how a center is integrated into the full system, and the technician's role in the process improvement of not only the cell but the full CIM system. Related safety and inspection and process adjustment are also covered.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	922849	ROBOTIC PROGRAMMING AND WELDING	This program introduces students to the safety and programming associated with robotic welding technology. Topics include robotic weld station familiarity, safety, robotic motions, programming, and welding inspection. Upon completion, the student should be able to setup and program a robot to weld parts in an efficient and safe manner.	10	12
2019-2020	922850	AUTOMOTIVE COOPERATIVE EDUCATION	This course is designed to give students practical, on-the-job experiences in all phases of automotive manufacturing under the supervision of a qualified professional. Grades are based on the successful completion of the work experience as judged by the students' work, supervisor, and faculty coordinator.	10	12
2019-2020	922851	AUTOMOTIVE COOPERATIVE EDUCATION	This course is designed to give students practical, on-the-job experiences in all phases of automotive manufacturing under the supervision of a qualified professional. Grades are based on the successful completion of the work experience as judged by the students' work, supervisor, and faculty coordinator.	10	12
2019-2020	922852	AUTOMOTIVE COOPERATIVE EDUCATION	This course is designed to give students practical, on-the-job experiences in all phases of automotive manufacturing under the supervision of a qualified professional. Grades are based on the successful completion of the work experience as judged by the students' work, supervisor, and faculty coordinator.	10	12
2019-2020	923001	FCC RULES AND REGULATIONS	This course provides instruction on the pertinent rules and regulations of the Federal Communications Commission (FCC). Emphasis is placed on the relationship of FCC rules and regulations to the practice of avionics and electronics in the aviation industry. Upon completion, students should be able to apply rules and regulations and take the basic FCC certification examination.	10	12
2019-2020	923201	FOUNDATION OF AVIATION ELECTRONICS	This course is designed to introduce the student to the basic concepts, terminology, and procedures associated with applied analytical skills. Specifically, the course provides students with applicable math, physics, and report writing skills. Upon completion, students will have the foundational knowledge needed to solve practical problems and exercises encountered in class and throughout the Avionics Program.	10	12
2019-2020	923202	AVIATION SOLDERING	This course provides instruction in the fundamental theory and practice of soldering. It provides the student with multiple opportunities for developing and practicing soldering skills. The course also provides instruction and practice in high reliability soldering and rework techniques. Upon completion, students will be able to repair electronic circuits by soldering electrical connections to FAA standards.	10	12
2019-2020	923203	AVIONICS THEORY	This course provides instruction pertaining to the theory of direct current (DC) and alternating current (AC) as applied to aviation. Students are prepared to analyze complex DC and AC circuits and to understand meter movements, network theorems, voltage dividers, resonance circuits, transformers, and filter circuits.	10	12
2019-2020	923204	AVIONICS LAB I	This course provides hands-on laboratory exercises to analyze direct current and alternating current circuits. Emphasis is placed on the use of the scientific calculator and the operation of common test equipment used to analyze and troubleshoot DC and AC circuits to prove the theories taught in AVT 111.	10	12
2019-2020	923205	PRINCIPLES OF SOLID STATE	This course provides instruction in basic solid state theory beginning with atomic structure and including diodes, bipolar transistors, field effect transistors, amplifiers, operational amplifiers, oscillator and power supply circuits. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	923206	DIGITAL CONCEPTS	This course provides instruction in basic logic gates, flip-flops, registers, counters, microprocessor/computer fundamentals, analog to digital conversion, and digital analog conversion. Emphasis is placed on number systems, Boolean algebra, combination logic circuits, sequential logic circuits, and typical microprocessor data manipulation and storage. Upon completion, students should be able to analyze digital circuits, draw timing diagrams, determine output of combinational and sequential logic circuits and diagnose and troubleshoot electronic components as well as demonstrate knowledge of microprocessor and computer circuits.	10	12
2019-2020	923207	INTRODUCTION TO AVIONICS	This course is an introduction to aircraft avionics systems. Emphasis is placed on basic concepts of navigation systems, landing systems, weather radar, transponder/TCAS operation, data buss concepts, and flight control systems.	10	12
2019-2020	923208	ELECTRONIC COMMUNICATIONS	This course provides instruction in basic principles of electronic communication, including AM, FM and SSB receiver, transmitter, and transceiver theory, antennas, transmission lines, and wave propagation. Emphasis is placed on communication circuits used in amplitude modulation, frequency modulation, and single-side band receiver/transmitter. This course further develops the student's diagnostic, troubleshooting, and repair skills. Upon completion, students will be able to align, troubleshoot, and repair basic receivers. Students also will gain a working knowledge of antennas, frequency spectrum, and wave propagation.	10	12
2019-2020	923209	MICROPROCESSORS AND INTERFACING	This course introduces basic programming and interfacing of a typical microprocessor, including data flow in the execution of program instructions, data manipulation, data stowage, and interfacing using programmable devices. Emphasis is placed on writing simple programs, executing, debugging programs and programming devices to serve as input/output interface units, and the flow of data during the fetch and execute phases of a program. Students will understand how a microprocessor runs a stored program, how to use an instruction set, and how to interface with displays, switches, and programmable devices.	10	12
2019-2020	923210	PULSE AND RADAR CIRCUITS	This course is a study of pulse circuits and synchro-servo systems and their application to airborne pulse systems, including radar. Emphasis is placed on the use of test equipment in diagnosing constructed pulse circuits similar to airborne pulse equipment used in aircraft systems. Upon completion, the student should be able to satisfactorily diagnose malfunctions in aircraft systems and successfully troubleshoot and repair pulse equipment.	10	12
2019-2020	923211	AIRCRAFT INSTALLATION/FAA REGULATIONS	This course provides instruction in FAA regulations, which direct repair station operations, sheetmetal procedures used in the installation of avionics systems, and aircraft wiring techniques. Emphasis is placed on developing the ability to construct aircraft composite structures using standard sheetmetal practices and a wiring harness for the King Radio KX-155 system. Upon completion of this course, the student should be able to perform board repair and install avionics equipment to industry and FAA standards.	10	12
2019-2020	923212	AVIATION COMMUNICATION	This course is a study of frequency synthesizers, aviation transceivers, and aircraft audio systems. Emphasis is placed on PLL and LSI frequency synthesizers, aviation transceivers based on these synthesizer types, and audio systems with power amplification and switching capability with an in depth study of the King Radio KX-155, KTR-905, and KMA-24 as representative examples. Upon completion, students should be able to use test equipment to perform operational checks, align, and troubleshoot aircraft communication systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	923213	NAVIGATION/ILS	This course is a study of navigation and instrument landing systems used in air traffic control systems. Emphasis is placed on VOR, ILS, ADF, and GPS with an in-depth study of the King Radio KI-203, KI-208, and KN-75 as representative examples. Upon completion, students should be able to use test equipment to perform operational checks, align, and troubleshoot aircraft navigation systems.	10	12
2019-2020	923214	DME TRANSPONDERS	This course provides instruction in the study of distance measuring equipment, ATCRBS transponders, and Mode S transponders as used in the air traffic control system. Instruction is specifically focused on airborne systems with an in-depth study of the King Radio KN-62 DME, KT-76A transponder, and the KT-71 Mode S transponder as representative examples. Upon completion, students should be able to use test equipment to perform operational checks, align, and troubleshoot aircraft DME/ transponder systems.	10	12
2019-2020	923215	AUTOPILOT AIRCRAFT SYSTEMS	This course provides instruction in aircraft autopilot theory, data buss, electrical power, and integrated systems. Emphasis is placed upon integrated aircraft systems and the diagnosis, alignment, maintenance, inspection of, and troubleshooting of these systems.	10	12
2019-2020	923400	INTRODUCTION TO BARBERING	This course provides an orientation to professional barber styling. Topics include learning skills, history of barbering, professional image, microbiology, safety, infection control, implements and tools, razor shaving properties and disorders of hair and scalp, and the treatment of hair.	10	12
2019-2020	923401	BACTERIOLOGY AND SANITATION	This course provides the theory of bacteriology and sanitation. Topics include the types of bacteria and sanitation procedures, and razor shaving. Upon completion, the student should be able to identify types of bacteria and methods of sanitation.	10	12
2019-2020	923402	ORIENTATION TO BARBERING	This course provides an orientation to professional barber styling. Topics include professional image, basic fundamentals, and the history of barber-styling. Upon completion, the student should be able to identify the core concepts of the profession. BAR 109 and 110, if taken together are a suitable substitute for BAR 108 – Introduction to Barbering.	10	12
2019-2020	923403	INTRODUCTION TO BARBERING LAB	This course provides practical application of barber-styling fundamentals. Emphasis is placed on safety, infection control, the use and care of implements, treatment of hair, and razor shaving. Upon completion, the student will demonstrate proper infection control, hair care, and use of implements. CORE	10	12
2019-2020	923404	SCIENCE OF BARBERING	This course introduces the student to the basic science of barber-styling. Topics include anatomy/physiology, disorders and treatments of the skin, scalp, and hair, and theory of facial and scalp massage. Upon completion, the student should be familiar with the anatomical structures, as well as disorders and treatments of the skin, scalp, and hair. CORE	10	12
2019-2020	923405	FUNDAMENTALS OF BARBERING APPLICATIONS	This course provides practical application of barber fundamentals learned in earlier courses. Emphasis is placed on safety, facial massage, treatment of hair and scalp proper use and care of implements, shampooing and haircutting, and razor shaving. Upon completion, the student should be able to perform fundamental barbering techniques with limited supervision. CORE	10	12
2019-2020	923406	BARBER-STYLING LAB	This course provides students with the opportunity to demonstrate skills in hair care, hair cutting, and facial massage. Emphasis is placed on safety and infection control.	10	12
2019-2020	923407	CUTTING AND STYLING TECHNIQUES	This course provides practical experience in basic scissor and clipper haircutting. Upon completion, the student will be able to cut and style a client's hair, demonstrating correct scissor and clipper cutting and styling techniques.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	923408	PROPERTIES OF CHEMISTRY	This course provides the student with a basic knowledge of chemicals used in barber-styling. Topics include the changes produced in the hair and skin through exposure to chemicals, electricity, and special light spectrums. Upon completion, the student should understand the proper use of implements and chemicals to treat hair and skin.	10	12
2019-2020	923409	CHEMICAL HAIR PROCESSING	This course provides students with opportunities to apply the use of chemicals to alter the appearance of hair. Emphasis is placed on the use of chemicals to relax, wave, and soft curl the hair. Upon completion, students will be competent in the use of chemicals to produce desired structure changes to the hair.	10	12
2019-2020	923410	HAIR COLORING CHEMISTRY	This course provides the student with a basic knowledge of hair color alteration. Topics include temporary, semi-permanent, and permanent changes. Upon completion, the student should be able to identify and explain the procedures for each classification of hair color alteration.	10	12
2019-2020	923411	HAIR COLORING METHODOLOGY LAB	This course provides the student an opportunity for practical application of all classifications of chemical hair coloring and processing products in a supervised environment. Emphasis is placed on experience in all classifications of hair coloring and processing procedures.	10	12
2019-2020	923412	MARKETING AND BUSINESS MANAGEMENT	This course provides the student with marketing and management skills that are essential for successful salon management. Topics include first aid, job search, bookkeeping, selling techniques, shop floor plans, shop location, and legal regulations. Upon completion, the student should be aware of marketing and business management requirements for a successful salon.	10	12
2019-2020	923413	STYLING AND DESIGN	This course introduces the student to the art of hair style and design. Topics include the selection of styles to create a mood or complement facial features as well as hair replacement and hair pieces. Upon completion, the student should know the principals of style and design	10	12
2019-2020	923414	STYLING AND MANAGEMENT LAB	This course includes hair styling and management procedure. Emphasis is placed on styling, management, marketing, and legal regulations. Upon completion, the student should be able to integrate a variety of skills and be ready to begin an internship in a salon setting.	10	12
2019-2020	923415	PRACTICUM I	This course provides the student an opportunity to combine knowledge and skill covering all aspects of barber-styling in a professional setting or school lab with minimal supervision. Emphasis is placed on utilization of the knowledge and technical skills covered in the barbering-styling curriculum. Upon completion the student should be able to function in a professional setting with very little assistance.	10	12
2019-2020	923416	PRACTICUM II	This course provides the student an additional opportunity to combine knowledge and skill covering all aspects of barber-styling in a professional setting or school lab with minimal supervision. Emphasis is placed on utilization of the knowledge and technical skills covered in the barbering-styling curriculum. Upon completion the student should function in a professional setting as a productive employee or manager.	10	12
2019-2020	923417	STATE BOARD REVIEW	Students are provided a complete review of all written and practical procedures in barbering and state board requirements. Upon completion students should be able to demonstrate the practical skills necessary to meet the requirements of state board certification and employment.	10	12
2019-2020	923601	BASIC CONSTRUCTION TOOLS AND MATERIALS	This course emphasizes the tools and materials used in the construction industry. Topics include safety, hand tools, hand held power tools and construction materials. Upon completion, students should be able to work safely within the industry and operate various hand tools and power equipment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	923602	BASIC CONSTRUCTION LAYOUT	This course provides students basic building layout skills. Topics include the builder's level, transit and basic site layout techniques. Upon completion, students should be able to solve differential leveling problems, set up and operate the builder's level and transit, build batter boards, and perform basic construction layout procedures.	10	12
2019-2020	923603	CONSTRUCTION MEASUREMENTS AND CALCULATIONS	This course focuses on the mathematics and calculations used in building construction. Topics include direct and computed measurements and practical applications of mathematical formulas. Upon completion, students should be able to apply measurement and mathematical formulas used in building construction.	10	12
2019-2020	923604	BASIC CONSTRUCTION PRINT READING	This course introduces students to construction print reading. Topics include symbols and abbreviations, basic plans, elevations, sections and details. Upon completion, students should be able to read basic construction plans and trade information for major crafts employed at a construction site.	10	12
2019-2020	923605	ROOF AND CEILING FRAMING	This course focuses on construction framing above the wall-plate line. Topics include ceiling framing roof framing, and trusses. Upon completion, students should be able to frame residential ceilings and roofs, design and build trusses and apply heavy timber construction principals.	10	12
2019-2020	923606	FLOORS AND WALLS FRAMING	This course focuses on floor and wall layout. Topics include leveling tools, framing, layouts, and components of wall and floor framing to include beams, girders, floor joists, sub-flooring, partitions, bracing, headers, sills, doors, and corners. Upon completion, students should be able to properly perform basic construction framing procedures for floor and walls.	10	12
2019-2020	923607	INTERIOR AND EXTERIOR FINISHES	This course is designed to provide students an in-depth understanding of interior and exterior finishes. Topics include exterior wall coverings, flooring, and interior finishes. Upon completion, students should be able to install and apply interior and exterior finishes to walls and overhangs, and install floors.	10	12
2019-2020	923608	BUILDING CODES	This course focuses on building codes, real estate, and project scheduling. Topics include real estate, project planning, specifications, company structure and organization, building codes and related legal aspects. Upon completion, students should be able to identify the components of the construction process, locate information in building code books, plan construction projects and understand the implications of various real estate issues.	10	12
2019-2020	923609	ON-GRADE CONCRETE APPLICATIONS	This course emphasizes techniques and principles required to design on-grade concrete forms. Topics include concrete curbs, edge forms, footing forms, concrete wall forms, concrete piers and columns, and templates with anchor bolts and dowels. Upon completion, students should be able to perform on-grade concrete slab forming, wall forming, curb forming, and set templates with anchor bolts.	10	12
2019-2020	923610	CONSTRUCTION ESTIMATING	This course covers the procedures involved in planning and estimating a residential structure. Topics include labor and equipment with emphasis placed on quantity take-off of materials necessary to construct a residential structure. Upon completion, students should be able to accurately complete a take-off of materials and equipments needs and plan the labor to construct a residential structure.	10	12
2019-2020	923611	ABOVE-GRADE CONCRETE APPLICATIONS	This course emphasizes techniques and principles required to build above grade forms and to provide practice in constructing above-grade form systems. Topics include beam forms, slab forms, flying-form tables, crane-set wall panels, gang-form system for walls, and stair forms. Upon completion, students should be able to build above-grade concrete form systems, flying-form tables for scale, and build gang-form systems for walls and stairs	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	923612	CURRENT TOPICS IN BUILDING CONSTRUCTION	This course focuses on current trends and emerging technologies in construction trades. Emphasis is placed on, but not limited to, field engineering, ironwork, concrete system design, materials and methods of construction, supervision, construction scheduling, sketching for builders, craft foremanship, and the total station. Upon completion, students should have developed new skills in areas of specialization.	10	12
2019-2020	923613	SOILS & SITE WORK	This course covers site conditions and soil types and their physical properties. Topics include site preparation, access, mechanical analysis, classification of soils, and hydrostatics of groundwater. Upon completion, students should be able to adequately prepare a building site according to plans and specifications.	10	12
2019-2020	923614	ELECTRICAL WIRING SYSTEMS	This course introduces residential and commercial electrical wiring systems. Topics include safety, care and use of tools and materials, use of NEC, circuit planning overcurrent protection, and installation of conduits, cables, and conductors. Upon completion, students be able to correctly identify tools, materials and procedures for electrical installation.	10	12
2019-2020	923615	CONSTRUCTION SURVEYING	This course covers field surveying applications for residential and commercial construction. Topics include building layout and leveling, linear measurement and turning angles, plumbing vertical members, and topographic and utilities surveys. Upon completion, students should be able to properly and accurately use surveying equipment to lay out residential and commercial buildings.	10	12
2019-2020	923801	INTRO TO CABINETMAKING	This is a beginning woodworking course, which deals with basic materials, and processes. Topics include basic safety procedures while in the Cabinet shop, an introduction to the safe use of tools and equipment, basic measurement principles, wood products, cutting, and fastening. Upon course completion, students should be able to safely inspect and use shop equipment, measure, mark, and perform various types of cuts, and assemble a specified project.	10	12
2019-2020	923802	INTRODUCTION TO LUMBER AND WOOD PRODUCTS	This is an introductory course to lumber, grades, sizes, characteristics and uses. Topics include the natural properties of trees, identification of various types of wood, the milling process, various defects found in wood, and how it is manufactured. Upon completion the students should be knowledgeable in the use of wood and wood products for the production of cabinets and fine furniture. CORE	10	12
2019-2020	923803	SIZES, DIMENSION, & JOINT	This course includes the study of cutting lumber to dimensions and materials to size with power tools. Emphasis is on job planning and the construction of all types of joints made with hand and power tools. Upon course completion, students should be able to plan jobs, make shop drawings, job layouts and patterns. CORE	10	12
2019-2020	923804	CABINET SHOP OPERATIONS	This course covers start up and general operation of a cabinet shop. Topics include shop organization, fire safety, financing, and tool acquisition. Upon completion, students should have basic knowledge of starting a custom cabinet shop.	10	12
2019-2020	923805	EQUIPMENT MAINTENANCE	This is an introductory course to maintaining woodworking tools and equipment. Emphasis is on equipment inspection, cleaning and lubrication, as well as removing and replacing saw blades, jointer, shaper, and planer knives. Upon course completion, students should be proficient in maintaining basic woodworking equipment. CORE	10	12
2019-2020	923806	WOODFINISHING FUNDAMENTALS	This is an introductory woodfinishing course. Topics include sanding, filling, staining, brushing and spraying. Upon course completion, students should be able to perform basic woodfinishing procedures. CORE	10	12
2019-2020	923807	WOODFINISHING	This course is a continuation of CAB 140. Emphasis is on filling, rubbing, spraying, and building up finishes. Upon course completion, students should be able to perform woodfinishing procedures	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	923808	REFINISHING FURNITURE AND ANTIQUES	This course offers instruction in refinishing furniture and restoring antiques. Emphasis is on the removal of old finish by stripping, washing, and sanding furniture; repair of broken pieces; and the use of veneers in patching. Upon course completion, students should be able to refinish furniture and antiques.	10	12
2019-2020	923809	CABINET MAKING AND MILLWORK	This course focuses on all aspects of cabinet millwork and construction. Topics include casework, frame and panel components, cabinet supports, doors, drawers, and cabinet and tabletops. Upon completion students should be able to perform all functions necessary to construct basic cabinets.	10	12
2019-2020	923810	FURNITURE CONSTRUCTION	This course focuses on all aspects of cabinet millwork and construction. Topics include casework, frame and panel components, cabinet supports, doors, drawers, and cabinet and tabletops. Upon completion students should be able to perform all functions necessary to construct basic cabinets.	10	12
2019-2020	923811	SPECIAL PROJECTS IN FURNITURE CONSTRUCTION	This course is a continuation of the study and performance of advanced furniture projects that began in CAB 205. Emphasis is on shaping, routing and carving. Upon course completion, students should be able to perform advanced skills necessary to construct fine furniture.	10	12
2019-2020	923812	SPECIAL PROJECTS IN FURNITURE CONSTRUCTION	This course is a continuation of the study and performance of advanced furniture projects that began in CAB 205. Emphasis is on shaping, routing and carving. Upon course completion, students should be able to perform advanced skills necessary to construct fine furniture.	10	12
2019-2020	923813	SPECIAL PROJECTS IN FURNITURE CONSTRUCTION	This course is a continuation of the study and performance of advanced furniture projects that began in CAB 205. Emphasis is on shaping, routing and carving. Upon course completion, students should be able to perform advanced skills necessary to construct fine furniture.	10	12
2019-2020	923814	CABINET INSTALLATION AND TRIM WORK	This course introduces students to cabinet installation and trim work. Emphasis is placed upon cabinet shipping and handling, cabinet and countertop installation, and trim work. Upon completion of the course, students should be able to explain proper cabinet handling procedures as well as the appropriate sequence and methods of installing kitchen and bathroom cabinets, and installing all appropriate trim work for the job.	10	12
2019-2020	923815	KITCHEN AND BATH DESIGN	This course offers instruction in utilizing CAD for kitchen and bath design. Emphasis is placed on computer use and design requirements for kitchens and baths. Upon course completion, students should be familiar with kitchen and bath design by utilizing CAD software for this purpose.	10	12
2019-2020	923816	ESTIMATING COSTS IN CABINETMAKING	This course focuses on estimating costs necessary to complete cabinetmaking projects. Emphasis is on figuring costs of materials and labor and on the use of pertinent formulas. Upon course completion, students should be able to estimate costs of complete cabinetmaking projects.	10	12
2019-2020	923817	SPECIAL FINISHES	This course is a continuation of CAB 141. Emphasis is on spraying and hand rubbing with lubricants. Upon course completion, students should be able to apply special finishes to wooden surfaces.	10	12
2019-2020	923818	WOOD TURNING I	This course focuses on turning components for fine furniture projects. Emphasis is on operation and maintenance of wood lathes and tools. Upon course completion, students should be able to turn duplicate posts and table legs.	10	12
2019-2020	923819	WOOD TURNING II	This course is the lab component of CAB 260. It allows for further time to turn components for fine furniture projects. Emphasis is on operation and maintenance of wood lathes and tools. Upon course completion, students should be able to turn duplicate posts and table legs.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924001	CGI SOFTWARE BASICS	This course introduces students to Computer Graphic Imagery workflow in a dedicated software environment. Topics include interface navigation, creation tools, animation basics and rendering. Upon completion, students should be able to create simple CGI objects, animate them and assign visual rendering properties.	10	12
2019-2020	924002	COMPOSITING BASICS	This course covers the fundamental aspects of compositing software. Various techniques are covered such as color correction, layering, rotoscoping and color screen extraction. Upon completion, students should be able to integrate images from various sources to create a seamless visual effects sequence.	10	12
2019-2020	924003	COMPUTER GRAPHICS HISTORY	This course introduces students to Computer Graphic Imagery from a historical and cultural angle. Topics include learning about the 2D and 3D tools evolution, the key players in the industry and major landmark productions. Upon completion, the student should have acquired an extensive vocabulary of the CGI field and have a global view of this industry.	10	12
2019-2020	924004	INTRODUCTION TO CGI ANIMATION	This course introduces students to character animation principles and a study of advanced CGI techniques. Topics include animation principles, keyframing, rigging, skinning and UV texturing. Upon completion, students should be able to rig a CGI character properly and apply various animations to it.	10	12
2019-2020	924005	CGI ANIMATION	This course introduces students to character animation principles and a study of advanced CGI techniques. Topics include animation principles, keyframing, rigging, skinning and UV texturing. Upon completion, students should be able to rig a CGI character properly and apply various animations to it.	10	12
2019-2020	924006	STORYTELLING AND PREVISUALIZATION PROCESS/PROJECT	This course introduces students to the storytelling and previzualization process. Topics include use of tools like storyboard, rough 3d animation, camera framing and the importance of timing in storytelling. Upon completion, the student should be able to use these tools to prepare for the creation of a full CGI animated short feature.	10	12
2019-2020	924007	CGI SHADING, LIGHTING AND RENDERING	This course introduces students to the mechanics of how various materials react to light in real life and in a CGI software. Topics include study of various shaders, lighting techniques and rendering parameters. Upon completion the student should be able to reproduce a common object surface and render it efficiently.	10	12
2019-2020	924008	PROJECT LAB	This course introduces students to the storytelling and previzualisation process. Topics include use of tools like storyboard, rough 3d animation, camera framing and the importance of timing in storytelling. Upon completion, the student should be able to use these tools to prepare for the creation of a full CGI animated short feature.	10	12
2019-2020	924009	SIMULATION AND PARTICLES EFFECTS	This course introduces students to the study of various physicals phenomenon and their simulated counterpart in the CGI world. Topics include particles systems workflow, forces, modifiers, typical effects and technological limitations. Upon completion the student should be able to reproduce and render a broad range of simulated physical phenomenon to enhance any visual effects sequence.	10	12
2019-2020	924010	LIVE ACTION AND INTEGRATION PROJECT	This course introduces students to the principles of live action shooting for visual effects. Emphasis is placed on good pre-shoot planning and on how to avoid problematic situations. Topics include the study of camera tracking software and light matching techniques for the 3D elements. Upon completion the students should be able to shoot a live action plate, recreate a virtual matching camera and add CGI elements seamlessly.	10	12
2019-2020	924011	ADVANCED COMPOSITING	This course furthers students' study of compositing software and introduces visual effects design. Topics include color space, image transformation, tracking and film grain matching. Upon completion, the student should be able to perform intricate visual effects using image sequences and advanced tools.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924012	ADVANCED MODELING	This course furthers students' study of compositing software and introduces visual effects design. Topics include color space, image transformation, tracking and film grain matching. Upon completion, the student should be able to perform intricate visual effects using image sequences and advanced tools.	10	12
2019-2020	924013	FINAL PROJECT	This course allows the student to create a final project showcasing his strength and abilities under the supervision and counseling of a professional visual effects artist. Upon completion, the students should be able to showcase their talent and be ready to work in a VFX company.	10	12
2019-2020	924014	SPECIALIZATION FIELD	This course furthers the study of a particular field (modeling or animation) chosen by the student. Topics include (for modeling) digital sculpting, further anatomical study, understanding of muscle, fat and bone structure. Topics for animation include, learning of motion capture software, roto-capture and animation projects. Upon completion, the student should be able to showcase a deeper understanding of their chosen field.	10	12
2019-2020	924015	VISUAL EFFECTS PROCESS	This course introduces students to how visual effects are created in a workplace environment. Emphasis is placed on the study of a typical VFX house hierarchy and the pipeline structure. Topics include data flow, standardization, work hierarchy, internal and external interactions and work ethics. Upon completion, the student should be able to understand the inner workings of a VFX company and their role inside it.	10	12
2019-2020	924016	DIGITAL ENVIRONMENT	This course introduces students to matte painting techniques and specialized CGI environment software. Topics include concepts of art, camera projection, light repainting, atmosphere, and various tools available in virtual environment creation software. Upon completion, the student should be able to create a realistic environment from material coming from various 2d and 3d sources.	10	12
2019-2020	924201	CONSTRUCTION BASIC	This course introduces students to the opportunities in and requirements of the construction industry. Topics include economic outlook for construction, employment outlook, job opportunities, training, apprenticeship, entrepreneurship, construction tools, materials, and equipment, job safety and OSHA standards. Upon course completion, students should be able to identify the job market, types of training, knowledge of apprenticeship opportunities, construction tools, materials, equipment, and safety procedures.	10	12
2019-2020	924202	FLOORS, WALLS, AND SITE PREP.	This course introduces the student to site preparation, floor and wall layout, and construction. Topics include methods of site preparation, measurement and leveling tools, framing, layouts, and components of wall and floor framing to include beams, girders, floor joists, sub-flooring, partitions, bracing, headers, sills, doors and corners. Upon course completion, students will be able to identify various types of wall and floor framing systems and their components, identify building lines, set backs, and demonstrate a working knowledge of leveling applications.	10	12
2019-2020	924203	FLOORS, WALLS, SITE PREP LAB	In this course the student will engage in applications of site preparation, floor and wall layout, and construction. Emphasis is placed on following job safety procedures, the use of required tools and equipment, performing site preparation, laying out and framing a floor system, and laying out, and erecting walls. Students will use various measurement and leveling tools, identify and install beams, girders, floor joists, sub-flooring, and install various wall components such as partitions, bracing, headers, sills, doors and windows, and corners. Upon course completion, students should be able to follow proper safety procedures, identify building lines and set backs, ensure proper site preparation, layout and frame a floor, and layout, frame and erect walls.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924204	CONSTRUCTIONS BASICS LAB	This course provides practical and safe application of hand, portable power, stationary and pneumatic tools, use of building materials, fasteners and adhesives, and job site safety. Emphasis is placed on the safe use of hand, power, and pneumatic tools, proper selection of lumber, plywood, byproducts, nails, bolts, screws, adhesives, fasteners, construction materials, and job safety. Upon course completion, the student should be able to identify hand, power, stationary, and pneumatic tools and demonstrate their safe use; identify and properly select wood and non-wood building products, and properly use nails, fasteners and adhesives.	10	12
2019-2020	924205	INTRODUCTION TO BLUEPRINT READING	This course introduces the students to the basic concepts of blueprint reading. Topics include scales, symbols, site plans, notations, schedules, elevations, sections, specifications, and detail drawings. Upon completion, the student should be able to identify drawings, scale various drawings, identify different types of lines, symbols, and notations, as well as use plot plans, describe easements, understand building code concepts, locate utilities, and explain various aspects of all types of plans and drawings.	10	12
2019-2020	924206	CONCRETE AND FORMING	This course introduces the student to concrete, its properties and uses, and procedures for designing concrete forms. Topics include making and pouring concrete, constructing concrete forms, reinforcement methods, finishing concrete, and job safety. Upon completion, students should be able to list safety rules for the job site, list what concrete is made of, describe how concrete forms are built, and how concrete is poured, reinforced, and finished	10	12
2019-2020	924207	CONCRETE AND FORMING LAB	This course provides practical experience in mixing concrete, building forms, using reinforcing materials, pouring and finishing concrete, and demonstrating proper safety techniques at the job site. Emphasis is placed on job site safety, concrete forming, mixing, pouring, finishing and reinforcing. Upon completion, the student should be able to demonstrate job safety, set forms, reinforce, mix, pour and finish concrete correctly.	10	12
2019-2020	924208	ROOF AND CEILING SYSTEMS	This course focuses on framing ceilings and roofs. Emphasis is placed on the various types of ceiling and roofing frames, rafters, trusses, ceiling joists, roof decking, and roofing materials. Upon completion, students should be able to explain how to frame a roof and ceiling, identify proper installation methods of roofing materials, and describe applicable safety rules.	10	12
2019-2020	924209	INTERIOR AND EXTERIOR FINISH	This course introduces the student to interior and exterior finishing materials and techniques. Topics include interior trim of windows and doors, ceilings, and wall moldings, exterior sidings, trim work, painting and masonry finishes. Upon completion the students should be able to identify, describe the uses of, and install different types of doors, windows and moldings; identify and install the types of exterior sidings and trim, and describe the different types of paint and their proper application.	10	12
2019-2020	924210	ROOF AND CEILING SYSTEMS LAB	The course provides students with practical experience in roof and ceiling layout, framing, and installation. Upon completion, the student should be able to layout and frame a roof and ceiling, cut and install rafters, and joists, install trusses, cut and apply roof decking and roofing materials, and apply job site safety rules.	10	12
2019-2020	924211	INTERNSHIP IN CARPENTRY	This course is designed to provide exposure to carpentry practices in non-employment situations. Emphasis is placed on techniques used in the carpentry profession. This course allows students to refine their skills necessary for entry-level employment	10	12
2019-2020	924212	INTERNSHIP IN CARPENTRY	This course is designed to provide exposure to carpentry practices in non-employment situations. Emphasis is placed on techniques used in the carpentry profession. This course allows students to refine their skills necessary for entry-level employment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924213	INTERNSHIP IN CARPENTRY	This course is designed to provide exposure to carpentry practices in non-employment situations. Emphasis is placed on techniques used in the carpentry profession. This course allows students to refine their skills necessary for entry-level employment.	10	12
2019-2020	924214	INTRODUCTION IN CABINETRY	This course is an introductory cabinetry course. Emphasis is placed on design and construction of cabinetry. Upon completion, the student should be able to design and build cabinets according to specification.	10	12
2019-2020	924215	FLOOR, WALL, AND CEILING SPECIALTIES	This course focuses on advanced interior applications for floors, walls, and ceilings. Topics may include paneling, hard wood floors, drop ceilings, acoustical ceilings, tray ceilings, and box ceilings. Upon completion the students should have a working knowledge of the specialties covered. This is an advanced course.	10	12
2019-2020	924216	METAL FRAMING	This course introduces the students to metal framing of floors, walls, ceilings and roofs. Emphasis is placed on metal frame construction. Upon completion, students are expected to be able to describe components and proper application of metal framing, properly construct floors, walls, ceilings, and roofs.	10	12
2019-2020	924217	STAIRS, MOLDING, AND TRIM	This course focuses on the basics of stair design, layout, and construction. Topics also include cutting and installing stair trim and molding. Upon course completion, students should be able to layout, cut, and construct stairs, and install trim and molding.	10	12
2019-2020	924218	RESIDENTIAL REPAIR AND REMODELING	This course focuses on the methods used for a repair or remodeling project. Topics include design, estimation of materials, cost, time, manpower, and bid preparation. Upon completion the students should be able to demonstrate an ability to design a repair or remodeling project according to code, accurately quote materials, cost, time, and manpower requirements, and obtain all necessary permits for construction.	10	12
2019-2020	924219	CONSTRUCTION PROJECT MANAGEMENT	This course focuses on the basic information necessary for successfully managing a construction project. Topics include basic building blocks of scheduling, refining a schedule, communications, techniques for estimating time to complete projects, timely delivery of materials, appropriate manpower scheduling, and use of construction management software. Upon completion, students are expected to understand the meaning and purpose of project planning and management, use of a schedule in management, and be able to communicate and coordinate work activities. The students should also be able to develop a comprehensive estimate for the completion of a construction project.	10	12
2019-2020	924401	MODERN COMMERCIAL ART	This course provides students with a basic knowledge of the current tools and practices used in the commercial art industry. Emphasis is placed on computer terms, file management, hardware components, and software applications that include image editing, illustration, and layout. Upon completion, students will have an understanding of using the computer as a design tool in today's commercial art industry.	10	12
2019-2020	924402	ELECTRONIC GRAPHIC APPLICATIONS	This course introduces students to software applications in graphic productions. Topics may include production terms, image editing, illustration, and layout software applications. Upon completion, students should be able to use industry-standard production software packages.	10	12
2019-2020	924403	DESIGN DRAWING	This is an introductory course using pencil, conte crayon, and drawing instruments. Topics include perspective, space, relationships of design elements, light, shadow, and depth. Still life, landscape, fundamental gesture drawing and page design are introduced. Upon completion, students should be able to apply the fundamentals of drawing and area composition.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924404	DIGITAL IMAGING	This course introduces students to digital imaging software. Emphasis is placed on painting and editing, creating special effects, basic image corrections, photo retouching, preparing images for web publications and creating color separations. Upon completion, students should be able to identify the different tools, work with multiple layer images, retouch a photograph, create special effects and prepare an image for a web publication.	10	12
2019-2020	924405	LAYOUT AND DESIGN	This course introduces students to layout and design principles using current software. Topics include importing, combining and manipulating text, graphic elements, and images for composite layout. Upon completion, students should be able to design and layout various projects at a professional level for production.	10	12
2019-2020	924406	PRINCIPLES OF DESIGN	This course introduces students to the traditional principles and elements of design. It promotes creative thinking to solve visual communication problems. Emphasis is placed on alignment, contrast, repetition, and proximity. Design concepts include symmetrical and asymmetrical design, as well as the importance of line, shape, texture, value and color. Upon completion, students should be able to use conscious awareness of design principles to create successful projects.	10	12
2019-2020	924407	BASIC ADVERTISING DESIGN	This course focuses on design assignments related to the commercial art field and introduces students to graphic design techniques. Focus is placed on creating and producing advertising design pieces. Emphasis is placed on accuracy, sizing, and craftsmanship. Upon course completion, students should be able to apply creative thinking in design communications and should be able to produce advertising design from concept to completion.	10	12
2019-2020	924408	DIGITAL PHOTOGRAPHY	This course introduces students to digital imaging techniques. Emphasis is placed on the technical application of the camera, digital photographic lighting methods, and overall composition. Upon completion, students should be able to take digital images and understand the technical aspects of producing high quality photos for various graphic reproductions.	10	12
2019-2020	924409	CURRENT TOPICS IN COMMERCIAL ART	This course is a survey of current trends in the commercial art industry and provides specialized instruction in various areas using current professional techniques. Emphasis is placed on specialized areas of commercial art	10	12
2019-2020	924410	IMAGING I	This course introduces the student to concepts involved in digital photography and image correction/enhancement using current design software, both with stock photographs and the student's own work with the digital camera. Emphasis is placed on learning the principles of good composition and comprehending the commands and procedures to prepare the images for different types of production.	10	12
2019-2020	924411	COMMERCIAL PRINTING	This course provides an overview of commercial press systems. Emphasis is placed on press operation, printing, troubleshooting, substrates, inks, finishing, and binding. Upon completion students should be able to understand the functions required in commercial printing.	10	12
2019-2020	924412	ELECTRONIC PUBLISHING I	The focus of this course is on improving design knowledge and skills for publishing. The student will create projects based on the knowledge they have obtained in previous course work. Emphasis will be place on producing a technically correct file for publishing using current design software. Upon completion the student should have an understanding of the publishing process from concept to completion.	10	12
2019-2020	924413	ELECTRONIC PUBLISHING II	The focus of this course is to further advance the student's design knowledge and skills for publishing. The student will create projects based on the knowledge they have obtained in previous course work. Emphasis will be place on producing a technically correct file for publishing using current design software. Upon completion the student should have an advanced understanding of the publishing process from concept to completion.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924414	INTERMEDIATE ADVERTISING DESIGN	This course includes mid-level design concepts and assignments. Emphasis is placed on various design elements including artistic rendering, photo illustrations, typography, and computer layout as applied to advertising campaigns. Upon completion, students should be able to use their design skills to produce professional quality graphic designs and layout.	10	12
2019-2020	924415	ADVANCED ADVERTISING DESIGN	This course allows students to integrate advertising marketing and design principles to produce pieces that communicate effectively. Emphasis is placed on concepts using creative thinking coupled with design application to develop positive advertising campaigns. Upon completion, students should be able to apply their collaborative design skills to meet the needs of the advertising industry.	10	12
2019-2020	924416	PORTFOLIO	This course provides the advanced student an opportunity to use previous commercial art training to design and produce a professional and marketable portfolio for final presentation. Emphasis is placed on a completed portfolio, resume, and cover letter. Upon completion, students should be able to formulate and organize their portfolios for various design positions.	10	12
2019-2020	924417	WEB SITE DEVELOPMENT	This course focuses on the necessary technical tools and design principles used for creating and posting web sites. Emphasis is placed on software and the creation and maintenance of a web site. Upon completion, students should be able to design, implement and maintain a web site.	10	12
2019-2020	924418	CREATIVE ILLUSTRATION	This course introduces the student to the fundamentals of illustration using assorted media including pencil, colored pencil, watercolor, ink, pastels, etc. Emphasis is placed on drawing and illustration, perception, color and execution. Dynamic illustrations are pursued through layouts for print advertisements, articles and books.	10	12
2019-2020	924419	3D GRAPHICS AND ANIMATION	This course is designed to tap the imagination of the student in a three dimensional problem solving environment. Topics include a basic introduction to the concepts of 3D design and animation as applied to a design project. Upon completion, students should be able to create and animate objects in a three-dimensional environment.	10	12
2019-2020	924420	COOPERATIVE WORK EXPERIENCE IN COMMERCIAL ART	This course is designed for the student to obtain work experience in the Commercial Art profession. Emphasis is placed on instruction by a qualified professional in a work situation and on producing work meeting industry standards using current technology. Upon completion, students should be able to work in a professional creative environment with little or no supervision.	10	12
2019-2020	924601	FUNDAMENTALS OF SURVEYING	The purpose of this course is to introduce the student to the basic principles of surveying. This will include the use of the tape, the transit, and the level. Upon completion of this course the student will know how to measure distances, angles, and elevations; analyze errors in measurements; compute positions, areas, and volumes, and develop a site plan.	10	12
2019-2020	924602	STRUCTURAL DRAFTING FOR TECHNICIANS	The purpose of this course is to introduce the student to structural detailing. This will include wood, steel, and concrete detailing. Upon completion of this course the student will be able to detail in wood, steel, and reinforced concrete.	10	12
2019-2020	924603	STRUCTURAL STEEL DETAILING	This course teaches the student to produce shop drawings for steel fabrication. Upon completion of this course the student will become familiar with the methods and materials used in steel fabrication, the creation of shop and field drawings necessary to fabricate and erect a simple steel structure, and the selection of connections that will be safe and economical to fabricate and erect.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924604	CIVIL ENGINEERING DRAFTING	The purpose of this course is to introduce the student to civil engineering drafting. This will include topographic drawings, land development drawings, roadway plans and profiles, and drainage plans and profiles. Upon completion of this course the student will be able to construct topographic maps, land development maps, and drainage structure drawings.	10	12
2019-2020	924605	MECHANICS AND STRENGTH OF STRUCTURES	The purpose of this course is to introduce the student to the study of mechanics and strength of structures. This will include the study of statics and strength of materials involving the use of algebra and trigonometry without the use of calculus. Upon completion of this course the student will become familiar with the trigonometry used in statics; understand the concepts of resultant and equilibrium of concurrent and non-concurrent forces, center of gravity, moment of inertia, and radius of gyration; and understand the relationship between applied and internally induced stresses in various types of structural members.	10	12
2019-2020	924801	ENGINEERING BLUEPRINTS	This course introduces the student to the various types of engineering drawings. Topics include architectural, civil, electrical, electronic, and mechanical engineering blueprints. Upon completion of this course the student will be able to identify techniques, symbols, language, and purpose of the engineering drawings covered.	10	12
2019-2020	924802	INTRODUCTION TO ENGINEERING TECHNOLOGY	This course is designed to introduce the student to the basic concepts, terminology, and procedures associated with applied analytical skills needed to succeed in higher level courses. Topics include engineering notation, use of scientific calculator, basic algebra, trigonometry, and geometry.	10	12
2019-2020	924803	INTRODUCTION TO MICROSTATION	This course teaches the basic techniques and concepts used in setting up a computer-aided drafting software program on a personal computer to make technical drawings. Students use Microstation in application of drawing/design techniques. Students will be expected to draw proper basic, multi-view drawings using Microstation by the completion of the course.	10	12
2019-2020	924804	FUNDAMENTALS OF SURVEYING	This course introduces the theory and practice of plane surveying and presents the basics associated with measuring angles and distances. Topics include historical perspectives, care and use of instruments, taping, differential and profile leveling, transit, stadia, and transit-tape surveys. Upon completion, students will be able to apply the theory and practice of plane surveying to determine boundaries, areas, and volumes of land measurements.	10	12
2019-2020	924805	INTERMEDIATE SURVEYING	This course is a continuation of CET 111 with an emphasis on route surveying. Topics include design and layout of horizontal and vertical curves, super elevation, and site distances. Upon completion, students will be able to design and layout roadways.	10	12
2019-2020	924806	ENGINEERING MATERIALS	This course introduces the student to the applications and characteristics of materials commonly used in engineering design. Topics include soil, wood, steel, concrete, and asphalt. Upon completion, students will be able to identify and explain the characteristics and uses of the various building materials and complete basic design or inspection of these materials.	10	12
2019-2020	924807	HIGHWAY DESIGN AND CONSTRUCTION	This course presents an overview of street and highway design from concept to construction. Topics include highway planning, design, and construction as well as driver, vehicle, and traffic characteristics, highway capacity, sight distances, design of cross section and grade line, and drainage. Upon completion, students will be able to determine the best and most economical highway design practices.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924808	TOPOGRAPHICAL SURVEYING & DRAWING	This course introduces the student to the application of surveying and drafting principles to accurately depict a section of terrain with respect to elevations, distance, and contour lines. Topics include cross sections, contour lines, and stadia. Upon completion, students will be able to complete a topographic survey of a piece of property and draw a contour map of the property.	10	12
2019-2020	924809	HYDRAULICS	This course introduces fluid mechanics with primary emphasis on water and sewer. Topics include water at rest, open channel flow, drainage area calculations, and sanitary and storm system design. Upon completion, students will be able to design a storm water system.	10	12
2019-2020	924810	STATICS	This course is an overview of the principles of mechanics-statics whereby the external and internal forces acting on a body may be analyzed and their effects ascertained. Topics such as coplanar and non-coplanar systems, parallel and non-parallel, and concurrent and non-concurrent forces will be examined. Upon completion, the student will be able to analyze simple to moderately complex structures and determine the effects of these forces on the members of various systems.	10	12
2019-2020	924811	ADVANCED SURVEYING	This course presents complex principles and practices used in high precision civil engineering survey projects. Topics include Alabama law as applied to modern surveying, minimum technical standards, use of electronic surveying equipment, and Global Positioning Systems (GPS). Upon completion of the course, the student should be able to complete a survey using minimum technical standards accurate to 1:10,000.	10	12
2019-2020	924812	STRENGTH OF MATERIALS	This course presents a look at the techniques used in the analysis and design of structural elements in systems with a view toward equipping the student to select structural members that are safe and economical. Topics include the study of stress strain curves, material properties and uses, and both bolted and welded connections. Upon completion of this course, the student should be able to identify stresses in various structural members.	10	12
2019-2020	924813	STRUCTURAL ANALYSIS	This course introduces the student to several methods of analysis of structural systems. Topics include tension members, beams, columns, base plates, and connection. Upon completion, the student should be able to analyze and design simple structural systems.	10	12
2019-2020	924814	RESIDENTIAL LAND DEVELOPMENT	This course is an overview of engineering principles concerning various types of land development for residential use. Topics include single family, garden home, and multi-family development master planning. Upon completion of this course the student will be able to design various types of residential developments.	10	12
2019-2020	924815	SITE PLANNING AND DEVELOPMENT	This course is an overview of the engineering principles of site grading and development. Topics include building orientation, parking, traffic flow, drainage, site grading and earthwork. Upon completion of this course the student will be able to design a site to include grading, drainage, parking, and building orientation.	10	12
2019-2020	924901	ORIENTATION TO THE HOSPITALITY PROFESSION	This course introduces various facets and opportunities within the hospitality profession. The intent is for students to gain a broad base of information relative to the hospitality industry. Emphasis is placed on having students comprehend their role as a hospitality industry professional. Topics include an overview of the hospitality profession, knowledge and skills necessary for successful employment, the impact of the hospitality profession on society, issues that impact on various segments of the hospitality profession, and emerging trends.	10	12
2019-2020	924902	CATERING	This course includes the theory and practice of operating a catering business. Topics include food production and management related to catering and other special services. Upon completion, the student will have a working knowledge of the principles involved in operating a catering business.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924903	BASIC FOOD PREPARATION	In this course students acquire fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items.	10	12
2019-2020	924904	FOUNDATIONS IN NUTRITION	This course focuses on nutrition and meal planning in relation to the food preparation industry. Topics include the science of food and nutrition, essential nutrients and their relation to the growth, maintenance and functioning of the body, nutritional requirements of different age levels and economic and cultural influences on food selection. Upon completion of this course, students will be able to apply the basic principles of meal planning.	10	12
2019-2020	924905	SANITATION, SAFETY, AND FOOD SERVICE	This course introduces the basic principles of sanitation and safety to food service handling including purchasing, storing, preparation and serving. Specific topics include the dangers of microbial contaminants, food allergens and foodborne illness, safe handling of food, the flow of food, and food safety management systems. At the conclusion of this course students will be prepared to test for ServSafe© certification. The content of this course is foundational for all culinary arts classes.	10	12
2019-2020	924906	TABLE SERVICE	This course is a guide for the modern wait staff. Topics include laying the cover, taking the order, surveying of different styles of table service from the casual to the very formal, tabulating and presenting the bill, and busing and turning the table. Upon completion of this course, students should be able to demonstrate proficiency in the art of table service.	10	12
2019-2020	924907	MEAL MANAGEMENT	This course covers the principles of meal management. Topics include menu planning, food selection, recipe standardization, food preparation, and meal service for all phases of food service. Upon completion of this course, students will be able to apply efficient work habits, sanitation and safety in the kitchen.	10	12
2019-2020	924908	ADVANCED FOOD PREPARATION	In this course, students apply food preparation and meal management skills in all areas of food service. Emphasis is placed on management and technical skills needed to operate a restaurant. Upon completion, students will develop advanced skills in food preparation and meal management.	10	12
2019-2020	924909	BASIC FOOD PREPARATION LAB	In this course students apply fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. At the conclusion of this course students will demonstrate basic food preparation skills.	10	12
2019-2020	924910	FOOD PREPARATION AND THE HEALTH CARE INDUSTRY	This course introduces students to food preparation and service in the health care industry. Emphasis will be placed on using medical dictionaries and reading charts for therapeutic diet instruction, and designing and creating menus and diet programs for special client populations. Upon completion, students should be able to read and interpret medical terms, and demonstrate knowledge about food service in the health care industry.	10	12
2019-2020	924911	FOOD PRODUCTION FOR SPECIAL OPERATIONS	This course covers menu planning principles, food preparation, food procurement, and food management skills needed to provide appealing and profitable food service in special operations. Topics include fast food cookery, convenience-store food service, supermarkets, delicatessens, and take-out venue. Upon completion, students should be able to plan, organize, and prepare food service items for special operations.	10	12
2019-2020	924912	HEALTHY COOKING	The student will become educated in the principles of sound nutrition for the prevention of disease. Basic principles of nutrition will be discussed along with practical aspects of nutrition which will be applied through cooking demonstrations by the instructor.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	924913	MEAT PREPARATION AND PROCESSING	This course focuses on meat preparation and processing. Students will be responsible for the preparing of meats including beef, pork, poultry, fish, and seafood so they can be used for final preparations in the other stations of the kitchens. Upon completion, students will be able to demonstrate an understanding of the principles in meat preparation and processing.	10	12
2019-2020	924914	FOUNDATIONS OF BAKING	This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to prepare and evaluate baked products.	10	12
2019-2020	924915	FOOD PURCHASING AND COST CONTROL	Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and food service ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.	10	12
2019-2020	924916	FOOD AND DRUG INTERACTION	This course introduces the student to the planning of special diets in relation to food and drug interactions. Emphasis is placed on reviewing common medications that are often prescribed and how these medications interact with certain foods. Upon completion, students demonstrate an understanding of food and drug interaction.	10	12
2019-2020	924917	DIETARY MANAGEMENT	This course includes the basic methods of modifying diets by changing consistency, energy value, or nutrient content to meet a specific need. Topics include special diets such as liquid, soft, regular, and light. Upon completion, the student will be able to demonstrate an understanding of the principles of dietary management in food preparation and service.	10	12
2019-2020	924918	ADVANCED DIETARY MANAGEMENT	This course focuses on the dietary manager in external and internal activities. Emphasis is placed on learning to control productivity, to construct a budget, to maintain financial records, and to recognize the causes of food allergens. Upon completion, the student should have an understanding of the role of a dietary manager.	10	12
2019-2020	924919	MENU DESIGN	This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, students should be able to write, lay out, and produce effective menus for a variety of hospitality settings.	10	12
2019-2020	924920	INTERNSHIP FOR CULINARY APPRENTICE	This course is designed to give students practical, on-the-job experiences in all phases of food service operations under the supervision of a qualified chef and coordinated with the college instructor. This course may be repeated for credit.	10	12
2019-2020	925201	INTRODUCTION OF EARLY CARE AND EDUCATION OF CHILDREN	This course introduces students to the child education and care profession. It is designed to increase understanding of the basic concepts of child development and the developmental characteristics of children from birth through age 8/9 years. This course is the foundation for planning appropriate activities for children and establishing appropriate expectations of young children. This class also offers an opportunity to study the developmental domains (social, emotional, cognitive/language and physical). Course includes observations of the young child in early childhood settings.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925202	CHILD GROWTH AND DEVELOPMENT	This course is a systematic study of child growth and development from conception through early childhood. Emphasis is on principles underlying physical, mental, emotional and social development, and methods of child study and practical implications. Upon completion, students will be able to use knowledge of how young children differ in development and approaches to learning to provide opportunities that supports physical, social, emotional, language, cognitive, and aesthetic development.	10	12
2019-2020	925203	CHILDRENS CREATIVE EXPERIENCES	This course focuses on fostering creativity in preschool children and developing a creative attitude in teachers. Topics include selecting and developing creative experiences in language arts, music, art, science, math and movement with observation and participation with young children required. On completion, student will be able to select and implement creative and age-appropriate experiences for young children.	10	12
2019-2020	925204	CHILDRENS LITERATURE AND LANGUAGE DEVELOPMENT	This course surveys appropriate literature and language arts activities designed to enhance young children's speaking, listening, pre-reading and writing skills. Emphasis is placed on developmental appropriateness as related to language. Upon completion, students should be able to create, evaluate and demonstrate activities which support a language-rich environment for young children.	10	12
2019-2020	925205	METHODS AND MATERIALS FOR TEACHING CHILDREN	This course introduces basic methods and materials used in teaching young children. Emphasis is placed on students compiling a professional resource file of activities used for teaching math, language arts, science, and social studies concepts. Upon completion students will be able to demonstrate basic methods of creating learning experiences using developmental appropriate techniques, materials, and realistic expectations. Course includes observations of young children in a variety of childcare environments.	10	12
2019-2020	925206	PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN	This course provides students with knowledge to develop programs for early child development. Specific content includes a review of child development concepts and program contents. Upon completion students will be able to develop and evaluate effective programs for the education of young children.	10	12
2019-2020	925207	CHILDRENS HEALTH AND SAFETY	This course introduces basic health, nutrition and safety management practices for young children. Emphasis is placed on how to set up and maintaining safe, healthy environments for young children including specific procedures for infants and toddlers and procedures regarding childhood illnesses and communicable diseases.	10	12
2019-2020	925208	OBSERVE AND RECORD CHILDRENS BEHAVIOR	This course will provide the student information and application for child observation, using various recording techniques for assessment documentation primarily utilizing a portfolio method. The student will also review expected child growth and development milestones coupled with principles of developmentally appropriate practices for assessment application. Lastly, the student will be given guidance for the appropriate use of assessment materials and ways to best share their findings with families.	10	12
2019-2020	925209	ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS	This course includes appropriate administrative policies and procedures relevant to preschool programs. Topics include local, state, and federal regulations, budget planning, record keeping, personnel policies and parent involvement. On completion, students should be able to identify elements of a sound business plan, develop familiarity basic record-keeping techniques, and identify elements of a developmentally appropriate program.	10	12
2019-2020	925210	INFANT AND TODDLER EDUCATION PROGRAMS	This course focuses on child development from infancy through thirty-five months of age with emphasis on planning programs using developmentally appropriate materials. Emphasis is placed on positive ways to support an infant or toddler's social, emotional, physical and intellectual development. Upon completion, the students should be able to plan an infant-toddler program and environment that is appropriate and supportive of the families and the children.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925211	EDUCATING EXCEPTIONAL CHILDREN	This course explores the many different types of exceptionalities found in young children. Topics include speech, language, hearing and visual impairments, gifted and talented children, mental retardation, emotional, behavioral, and neurological handicaps. Upon completion, students should be able to identify appropriate strategies for working with children.	10	12
2019-2020	925212	CHILD DEVELOPMENT SEMINAR	This course provides students with knowledge of a variety of issues and trends related the childcare profession. Subject matter will vary according to industry and student needs. Upon completion students should be able to discuss special topics related to current trends and issues in child development.	10	12
2019-2020	925213	CHILD DEVELOPMENT TRENDS SEMINAR	This course includes current topics in the child development field as an update to the professional caregiver industry needs determined by course topics. Upon completion of this class, students will demonstrate the competency needed in meeting the course objectives.	10	12
2019-2020	925214	FAMILIES AND COMMUNITIES IN EARLY CARE AND EDUCATION PROGRAMS	This course provides students with information about working with diverse families and communities. Students will be introduced to family and community settings, the importance of relationships with children, and the pressing needs of today's society. Students will study and practice techniques for developing these important relationships and effective communication skills.	10	12
2019-2020	925215	SUPERVISED PRACTICAL EXPERIENCE IN CHILD DEVELOPMENT	This course provides a minimum of 90 hours of hands-on, supervised experience in an approved program for young children. Students will develop a portfolio documenting experiences gained during this course.	10	12
2019-2020	925216	MATH AND SCIENCE FOR YOUNG CHILDREN	This course provides students with information on children's conceptual development and the fundamental basic concepts of both math and science. Students learn various techniques for planning, implementing and evaluating developmentally appropriate activities. Students will also learn about integrated curriculum.	10	12
2019-2020	925217	SUPERVISED PRACTICAL EXPERIENCE	This course provides hands-on, supervised experienced in an approved program for young children. Emphasis is placed on performance of daily duties which are assessed by the college instructor and the cooperating teacher. Upon completion, students will be able to demonstrate competency in a child care setting.	10	12
2019-2020	925218	PARENTING SKILLS	This course introduces childcare providers to important issues in parenting education, beginning with prenatal concerns and continuing through childhood years. Emphasis is placed on using effective parenting and childrearing practices including appropriate guidance methods. Students learn to apply parenting skills for diverse families. Upon completion, students will be more effective in working with families and young children.	10	12
2019-2020	925219	FAMILY CHILD CARE	This course introduces methods for providing a developmentally-appropriate child care program in a home setting to include organizing home environments, establishing a daily schedule with children of different ages, building partnerships with parents and helping children learn through play, etc. Special instruction addresses family care as a small business operation with emphasis being placed on budgeting and tax requirements.	10	12
2019-2020	925220	SOCIAL STUDIES FOR CHILDREN	This course takes a global approach to the theory and practice of teaching social studies to young children. It includes methods and materials used for teaching geography, history, the arts and multicultural education using an integrated curriculum approach. The application of theoretical and philosophical concepts will be emphasized, as students are required to participate in both in-class demonstrations and laboratory experiences.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925221	SCHOOL AGE CHILDCARE	This course is designed for caregivers/teachers providing programs for children age 5-12 in their before and after school care and summer programs. The course provides information on developmental profiles, discusses family concerns, and includes a variety of activities that caregivers can adopt to provide an educational and stimulating program.	10	12
2019-2020	925301	WORKPLACE SKILLS DEVELOPMENT	This course emphasizes foundational information for students to develop knowledge and skills to prepare them for employment following completion of 1 and academic programs. As part of this course students will participate in WorkKeys assessment and research related to the Labor Management Information (LMI). At the conclusion of this course, students will have knowledge and skills relevant to work ethic, communication, resume writing, job interviewing, dress and appearance, behavior, problem solving, decision making, and project management.	10	12
2019-2020	925302	DRAWING I	This course provides the opportunity to develop perceptual and technical skills in a variety of media. Emphasis is placed on communication through experimenting with composition, subject matter and technique. Upon completion, students should demonstrate and apply the fundamentals of art to various creative drawing projects.	10	12
2019-2020	925303	TWO DIMENSIONAL COMPOSITION I	This course introduces the basic of concepts of two-dimensional design. Topics include the elements and principles of design with emphasis on the arrangements and relationships among them. Upon completion, students should demonstrate an effective use of these elements and principles of design in creating two-dimensional compositions.	10	12
2019-2020	925304	DIGITAL PHOTOGRAPHY FOUNDATION	This course introduces the creative process of digital photography. Emphasis is placed on the components, accessories, and maintenance of a digital camera. Upon completion a student will comprehend how to compose and shoot a picture using a digital camera.	10	12
2019-2020	925305	INTRODUCTION TO COMPUTER GRAPHICS	This course is designed to acquaint the student with the technology, vocabulary, and procedures used to produce artworks with computers. Emphasis is placed on the fundamentals of art, creativity, and the understanding of various graphic software. Upon completion, students should demonstrate knowledge of computer graphics through production on a graphic program in a computer environment.	10	12
2019-2020	925306	COMPUTER GRAPHICS I	These courses are designed to enhance the student's ability to produce computer generated graphics. Emphasis is on the application of original design to practical problems using a variety of hardware and software. Upon completion students should have an understanding of professional computer graphics.	10	12
2019-2020	925307	COMPUTER GRAPHICS II	This course is designed to enhance the student's ability to produce an advanced level of computer generated graphics. Emphasis is on the application of original design to practical problems using a variety of hardware and software. Upon completion students should have an understanding of professional computer graphics	10	12
2019-2020	925401	INTRODUCTION OF EARLY CARE AND EDUCATION OF CHILDREN	This course introduces students to the child education and care profession. It is designed to increase understanding of the basic concepts of child development and the developmental characteristics of children from birth through age 8/9 years, including infant and toddler and pre-school years. This course is the foundation for planning appropriate activities for children and establishing appropriate expectations of young children. This class also offers an opportunity to study the developmental domains (social, emotional, cognitive/language and physical). Course includes observations of the young child in early childhood settings.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925402	TECHNOLOGY WITH PRESCHOOL	This course addresses the rising concern of using developmentally appropriate technology with young children. This course explores the many sites for ideas of developmentally appropriate lesson plans for young children and using appropriate sites for teaching and practice of basic skills. Topics include using various social media in the classroom and with parents. Upon completion the students should be able to select a variety of age-appropriate and developmentally appropriate sites to be used in the classroom and with parents.	10	12
2019-2020	925403	CHILD GROWTH AND DEVELOPMENT PRINCIPLES	This course is a systematic study of child growth and development from conception through early childhood. Emphasis is on principles underlying physical, mental, emotional and social development, and methods of child study and practical implications. Upon completion, students will be able to use knowledge of how young children differ in development and approaches to learning to provide opportunities that supports physical, social, emotional, language, cognitive, and aesthetic development. This is a CORE course. PSY 210 or PSY 211 may be used as a suitable substitute for this course for AAT and AAS degree programs at the discretion of the college.	10	12
2019-2020	925404	CHILDRENS CREATIVE EXPERIENCES	This course focuses on fostering creativity in preschool children and developing a creative attitude in teachers. Topics include selecting and developing creative experiences in language arts, music, art, science, math and movement with observation and participation with young children required. On completion, student will be able to select and implement creative and age-appropriate experiences for young children.	10	12
2019-2020	925405	CHILDRENS LITERATURE AND LANGUAGE DEVELOPMENT	This course surveys appropriate literature and language arts activities designed to enhance young children's speaking, listening, pre-reading and writing skills. Emphasis is placed on developmental appropriateness as related to language. Upon completion, students should be able to create, evaluate and demonstrate activities which support a language-rich environment for young children. This is a CORE course.	10	12
2019-2020	925406	METHODS AND MATERIALS FOR TEACHING CHILDREN	This course introduces basic methods and materials used in teaching young children. Emphasis is placed on students compiling a professional resource file of activities used for teaching math, language arts, science, and social studies concepts. Upon completion students will be able to demonstrate basic methods of creating learning experiences using developmental appropriate techniques, materials, and realistic expectations, including infant and toddler and pre-school. Course includes observations of young children in a variety of childcare environments. NOTE: CGM must teach this as a 2-1-3 configuration of theory/lab hours. This is a CORE course.	10	12
2019-2020	925407	PROGRAM PLANNING FOR EDUCATING YOUNG CHILDREN	This course provides students with knowledge to develop programs for early child development. Specific content includes a review of child development concepts and program contents. Upon completion students will be able to develop and evaluate effective programs for the education of young children.	10	12
2019-2020	925408	CHILDRENS HEALTH AND SAFETY	This course introduces basic health, nutrition and safety management practices for young children. Emphasis is placed on how to set up and maintaining safe, healthy environments for young children including specific procedures for infants and toddlers and procedures regarding childhood illnesses and communicable diseases. This is a CORE course.	10	12
2019-2020	925409	OBSERVE AND RECORD CHILDRENS BEHAVIOR	This course will provide the student information and application for child observation, using various recording techniques for assessment documentation primarily utilizing a portfolio method. The student will also review expected child growth and development milestones coupled with principles of developmentally appropriate practices for assessment application. Lastly, the student will be given guidance for the appropriate use of assessment materials and ways to best share their findings with families.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925410	ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS	This course includes appropriate administrative policies and procedures relevant to preschool programs. Topics include local, state, and federal regulations, budget planning, record keeping, personnel policies and parent involvement. On completion, students should be able to identify elements of a sound business plan, develop familiarity basic record-keeping techniques, and identify elements of a developmentally appropriate program.	10	12
2019-2020	925411	INFANT AND TODDLER EDUCATION PROGRAMS	This course focuses on child development from infancy through thirty-five months of age with emphasis on planning programs using developmentally appropriate materials. Emphasis is placed on positive ways to support an infant or toddler's social, emotional, physical and intellectual development. Upon completion, the students should be able to plan an infant-toddler program and environment that is appropriate and supportive of the families and the children.	10	12
2019-2020	925412	EDUCATING EXCEPTIONAL CHILDREN	This course explores the many different types of exceptionalities found in young children. Topics include speech, language, hearing and visual impairments, gifted and talented children, mental retardation, emotional, behavioral, and neurological handicaps. Upon completion, students should be able to identify appropriate strategies for working with children. This is a CORE course.	10	12
2019-2020	925413	CHILD DEVELOPMENT SEMINAR	This course provides students with knowledge of a variety of issues and trends related the childcare profession. Subject matter will vary according to industry and student needs. Upon completion students should be able to discuss special topics related to current trends and issues in child development.	10	12
2019-2020	925414	CHILD DEVELOPMENT TRENDS SEMINAR	This course includes current topics in the child development field as an update to the professional caregiver industry needs determined by course topics. Upon completion of this class, students will demonstrate the competency needed in meeting the course objectives.	10	12
2019-2020	925415	FAMILIES AND COMMUNITIES IN EARLY CARE AND EDUCATION PROGRAMS	This course provides students with information about working with diverse families and communities. Students will be introduced to family and community settings, the importance of relationships with children, and the pressing needs of today's society. Students will study and practice techniques for developing these important relationships and effective communication skills.	10	12
2019-2020	925416	SUPERVISED PRACTICAL EXPERIENCE IN CHILD DEVELOPMENT	This course provides a minimum of 90 hours of hands-on, supervised experience in an approved program for young children. Students will develop a portfolio documenting experiences gained during this course. NOTE: If students are pursuing a certificate in Infant and Toddler, placement must be in an infant and toddler environment.	10	12
2019-2020	925417	MATH AND SCIENCE FOR YOUNG CHILDREN	This course provides students with information on children's conceptual development and the fundamental basic concepts of both math and science. Students learn various techniques for planning, implementing and evaluating developmentally appropriate activities. Students will also learn about integrated curriculum.	10	12
2019-2020	925418	SUPERVISED PRACTICAL EXPERIENCE	This course provides hands-on, supervised experienced in an approved program for young children. Emphasis is placed on performance of daily duties which are assessed by the college instructor and the cooperating teacher. Upon completion, students will be able to demonstrate competency in a child care setting.	10	12
2019-2020	925419	PARENTING SKILLS	This course introduces childcare providers to important issues in parenting education, beginning with prenatal concerns and continuing through childhood years. Emphasis is placed on using effective parenting and childrearing practices including appropriate guidance methods. Students learn to apply parenting skills for diverse families. Upon completion, students will be more effective in working with families and young children.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925420	FAMILY CHILD CARE	This course introduces methods for providing a developmentally-appropriate child care program in a home setting to include organizing home environments, establishing a daily schedule with children of different ages, building partnerships with parents and helping children learn through play, etc. Special instruction addresses family care as a small business operation with emphasis being placed on budgeting and tax requirements.	10	12
2019-2020	925421	SOCIAL STUDIES FOR CHILDREN	This course takes a global approach to the theory and practice of teaching social studies to young children. It includes methods and materials used for teaching geography, history, the arts and multicultural education using an integrated curriculum approach. The application of theoretical and philosophical concepts will be emphasized, as students are required to participate in both in-class demonstrations and laboratory experiences.	10	12
2019-2020	925422	SCHOOL AGE CHILDCARE	This course is designed for caregivers/teachers providing programs for children age 5-12 in their before and after school care and summer programs. The course provides information on developmental profiles, discusses family concerns, and includes a variety of activities that caregivers can adopt to provide an educational and stimulating program.	10	12
2019-2020	925423	INTRODUCTION TO AFTERSCHOOL PROGRAMS	This course will introduce and discuss the unique aspects of quality afterschool programs and the roles of the adult staff. Topics will include a brief view of child development, positive guidance techniques, administrative considerations, beginning program planning, and adaptations for a variety of program settings. Upon completion, students should be able to understand the staff's role, create and modify unique program settings, use positive guidance, and implement a quality program.	10	12
2019-2020	925424	AFTERSCHOOL PROGRAMMING	This course focuses on the specialized variety of needs for a quality afterschool programming. Topics will include program planning, and material considerations for a variety of quiet/active indoor/outdoor activities, health/safety/nutrition needs, parent and community information and involvement. Upon completion, the student should be able to select a variety of age-appropriate activities, implement a safe, healthy, quality program, an effectively communicate with parents and the community.	10	12
2019-2020	925601	COMPUTER APPLICATIONS LAB	This lab is designed to allow instructors to provide additional implementation of computer concepts as needed. This course may be duplicated with an alpha suffix added to the course number. This course may be scheduled as an Experimental Lab (2:1) or Manipulative Lab (3:1).	10	12
2019-2020	925602	WORD PROCESSING SOFTWARE APPLICATIONS	This course provides students with hands-on experience using word processing software. Students will develop skills common to most word processing software by developing a wide variety of documents. Emphasis is on planning, developing, and editing functions associated with word processing.	10	12
2019-2020	925603	SPREADSHEET SOFTWARE APPLICATIONS	This course provides students with hands-on experience using spreadsheet software. Students will develop skills common to most spreadsheet software by developing a wide variety of spreadsheets. Emphasis is on planning, developing, and editing functions associated with spreadsheets.	10	12
2019-2020	925604	PRESENTATIONS GRAPHICS SOFTWARE APPLICATIONS	This course provides students with hands-on experience using presentation graphics software. Students will develop skills common to most presentation graphics software by developing a wide variety of presentations. Emphasis is on planning, developing, and editing functions associated with presentations.	10	12
2019-2020	925605	DATABASE MANAGEMENT SOFTWARE APPLICATIONS	This course provides students with hands-on experience using database management software. Students will develop skills common to most database management software by developing a wide variety of databases. Emphasis is on planning, developing, and editing functions associated with database management.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925606	INTRO TO INFORMATION SYSTEMS	This course is an introduction to computers that reviews computer hardware and software concepts such as equipment, operations, communications, programming and their past, present and future impact on society. Topics include computer hardware, various types of computer software, communication technologies and program development using computers to execute software packages and/or to write simple programs. Upon completion, students should be to describe and use the major components of selected computer software and hardware.	10	12
2019-2020	925607	MICROCOMPUTER APPLICATIONS	This course is an introduction to the most common microcomputer software applications. These software packages should include typical features of applications, such as word processing, spreadsheets, database management, and presentation software. Upon completion, students will be able to utilize selected features of these packages. This course will help prepare students for the MOS and IC3 certification. This course or an equivalent is CORE for the AAT and AAS CIS programs.	10	12
2019-2020	925608	ADVANCED MICRO APPLICATIONS	This course is a continuation of CIS 146 in which students utilize the advanced features of topics covered in CIS 146. Advanced functions and integration of word processing, spreadsheets, database, and presentation packages among other topics are generally incorporated into the course and are to be applied to situations found in society and business. Upon completion, the student should be able to apply the advanced features of selected software appropriately to typical problems found in society and business. This course will help prepare students for the MOS certification.	10	12
2019-2020	925609	POST ADVANCED MICRO APPLICATIONS	This course builds on concepts associated with various microcomputer applications with emphasis on advanced features commonly found in software applications. Advanced features of word processing, spreadsheets, database, and presentation packages are introduced. Features such as macros, Visual Basic Applications, and online features are included in the content of the course. Upon completion, the student will be able to apply the advanced features of selected software to the workplace. This course will help prepare students for the MOS certification.	10	12
2019-2020	925610	INTRODUCTION TO COMPUTERS	This course is an introduction to computers and their impact on society. The course covers the development of computers, their impact on society, as well as future implications of development of computer and related communication technologies. This course introduces programming and computer operating systems. Upon completion, students will have basic knowledge of computer technology and will be able to perform basic functions with a computer system. The course will help prepare students for the IC3 certification.	10	12
2019-2020	925611	INTRODUCTION TO COMPUTER LOGIC AND PROGRAMMING	This course includes logic, design and problem solving techniques used by programmers and analysts in addressing and solving common programming and computing problems. The most commonly used techniques of flowcharts, structure charts, and pseudocode will be covered and students will be expected to apply the techniques to designated situations and problems. This is a CORE course	10	12
2019-2020	925612	GRAPHICS FOR THE WORLD WIDE WEB	This course will provide an overview to the theory, tools, and techniques necessary for creating high-quality graphics using design software tools. This course may be substituted with CAT 150 Imaging I: Principles of Photography and Introduction to Photoshop and CAT180 Imaging II: Techniques of Photoshop and Painter or equivalent.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925613	INTRODUCTION TO UNITY 3D SCRIPTING	This course teaches Unity 3D in game scripting along with programming basics. This course will prepare students with basic knowledge of Namespaces and Classes, Conditional statements and loops, Unity 3D GUI, Unity's Mono Behaviors, proper formatting skills, and firm understanding of Unity and .Net data types.	10	12
2019-2020	925614	INTRODUCTION TO MOBILE APP DEVELOPMENT	The purpose of this course is to introduce students to various app development tools for various mobile platforms. Specific topics include: app distribution sources, mobile device operating systems, survey of app development software, processes for design, build, deploying, and optimizing apps. At the conclusion of this course students will be able to design, build, deploy, and optimize a basic app.	10	12
2019-2020	925615	MULTIMEDIA FOR THE WORLD WIDE WEB	This course covers contemporary, interactive multimedia technology systems, focusing on types, applications, and theories of operation. In addition to the theoretical understanding of the multimedia technologies, students will learn how to digitize and manipulate images, voice, and video materials, including authoring a web page utilizing multimedia.	10	12
2019-2020	925616	INTRODUCTION TO NETWORKING COMMUNICATIONS	This course is designed to introduce students to basic concepts of computer networks. Emphasis is placed on terminology and technology involved in implementing selected networked systems. The course covers various network models, topologies, communications protocols, transmission media, networking hardware and software, and network troubleshooting. Students gain hands-on experience in basic networking. This course further helps prepare students for certification. NOTE: This course is a suitable substitute for CIS 199. Additionally, CISCO I may be used as a suitable substitute for this course. However, CIS 161 will not substitute for CISCO I.	10	12
2019-2020	925617	NETWORK LAB	This lab is designed to allow instructors to provide additional implementation of networking concepts as needed. This course may be duplicated with an alpha suffix added to the course number.	10	12
2019-2020	925618	LINUX I	This course presents fundamental applications in Linux. Included in this course are skills development for OS installation and setup, recompile techniques, system configuration settings, file/folder structures and types, run levels, basic network applications, and scripting. Additionally, the course presents security features from an administrative and user consideration.	10	12
2019-2020	925619	LINUX II	This course is a continuation of CIS 171 and includes advanced features of Linux. Included in the course are web applications, integrated network configurations, file transfer, server administration, system controls, IP tables/firewall to secure Linux systems, and strategic user-group applications specific to administrative network control.	10	12
2019-2020	925620	COMPUTER ETHICS	This course will survey the various issues surrounding computer ethics.	10	12
2019-2020	925621	CO-OP for CIS I	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to computer practices in informational technologies environment. The grade is based on the employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract.	10	12
2019-2020	925622	INTRO TO COMPUTER PROGRAMMING CONCEPTS	This course introduces fundamental concepts, including an algorithmic approach to problem solving via the design and implementation of programs in selected languages. Structured programming techniques involving input/output, conditional statements, loops, files, arrays and structures and simple data structures are introduced. Students are expected to write programs as part of this course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925623	ADVANCES COMPUTER PROGRAMMING CENCEPTS	This course covers the concepts of algorithm specifications, structured programming, data representation, searching, sorting, recursion, simple data structures, language description, and problem testing. Emphasis is placed on development of problem-solving skills. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925624	INTRODUCTION TO COMPUTER PROGRAMMING LAB	This lab is designed to allow instructors to provide additional implementation of programming concepts as needed. This course may be duplicated with an alpha suffix added to the course number. This course may be scheduled as an Experimental Lab (2:1) or Manipulative Lab (3:1). (See Board Policy 705.01).	10	12
2019-2020	925625	COMMERCIAL SOFTWARE APPLICATIONS	This is a "hands-on" introduction to software packages, languages, and utility programs currently in use, with the course being able to repeat for credit for each different topic being covered. Emphasis is placed on the purpose capabilities and utilization of each package, language or program. Upon completion, students will be able to use the features selected for the application covered.	10	12
2019-2020	925626	ADVANCED COMMERCIAL SOFTWARE APPLICATIONS	This course provides the student with hands-on experience in using the advanced features of software packages, languages, and utility programs currently in use. Each offering focuses on one software package with credit being received for each different package. Upon completion, students will be able to use the features selected for the application covered.	10	12
2019-2020	925627	NETWORK COMMUNICATIONS	This course is designed to introduce students to the basic concepts of computer networks. Emphasis is placed on gaining an understanding of the terminology and technology involved in implementing networked systems. The course will cover the OSI and TCP/IP network models, communications protocols, transmission media, networking hardware and software, LANs (Local Area Networks) and WANs (Wide Area Networks), Client/Server technology, the Internet, Intranets and network troubleshooting. Upon completion of the course, students will be able to design and implement a computer network. Students will create network shares, user accounts, and install print devices while ensuring basic network security. They will receive hands-on experience building a mock network in the classroom. This course will help prepare students for the CCNA and Network + certifications. This is a CORE course for the AAT, AAS CIS programs. CIS 161 or CIS 273 may be used as a suitable substitute for this course. If used as a substitute, this is a CORE course.	10	12
2019-2020	925628	INTRODUCTION TO COMPUTER PROGRAMMING CONCEPTS	This course presents fundamental programming concepts. Included in this course are problem solving and algorithms, various design tools, programming structures, variable data types and definitions, modularization, and selected programming languages. Techniques are introduced to enable students to develop programs. This course is a suitable substitution for the programming core of the AAT and AAS CIS programs.	10	12
2019-2020	925629	INTRODUCTION TO THE INFORMATION HIGHWAY	This course introduces the student to the basic principles of the information highway. Students will be exposed to different network information tools such as electronic mail, network news, gophers, the World Wide Web, browsers, commercial information services and the use of appropriate editors or software to introduce construction of Web environments.	10	12
2019-2020	925630	CONTROL MANGUAGE AND UTILITIES APPLICATIONS	This course introduces computer operation and the job or executive language on a mini- or mainframe computer using both batch and on-line techniques. Utilities including sorts, screen design aids, and control programs while operating system concepts such as scheduling are introduced. Upon completion, the student will been able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925631	WEB DEVELOPMENT	At the conclusion of this course, students will be able to use specified markup languages to develop basic Web pages.	10	12
2019-2020	925632	WEB AUTORING SOFTWARE	Students utilize various Web authoring tools to construct and edit Web sites for a variety of applications. Upon completion students will be able to use these tools to develop or enhance Web sites.	10	12
2019-2020	925633	ADVANCED WEB DEVELOPMENT	This is an advanced Web design course emphasizing the use of scripting languages to develop interactive Web sites. Upon completion students will be able to create data driven Web sites. This course helps prepare students for the Certified Internet Webmaster (CIW) Foundations certification.	10	12
2019-2020	925634	CASE STUDY IN COMPUTER SKILLS APPLICATION	This course is designed to provide students with a capstone experience incorporating the knowledge and skills learned in the Computer Science program into student projects/case studies. Special emphasis is given to student skill attainment.	10	12
2019-2020	925635	PRINCIPLES OF INFORMATION ASSURANCE	This course is designed to introduce students to information security principles. Topics covered in this course will include the need for security, risk management, security technology, cryptography, and physical security. Security policies and legal/ethical issues will also be covered.	10	12
2019-2020	925636	VISUAL BASIC PROGRAMMING	This course emphasizes BASIC programming using a graphical user interface. The course will emphasize graphical user interfaces with additional topics on such topics as advanced file handling techniques, simulation, and other selected areas. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925637	ADVANCED VISUAL BASIC PROGRAMMING	This course is a continuation of CIS 212, Visual Basic Programming.	10	12
2019-2020	925638	SECURITY ANALYSIS (PEN TESTING)	This course introduces students to the concept of security analysis, or penetration testing, of information systems. Students will evaluate the security of a computer system or network, assessing security risks from the position of a potential attacker. Emphasis is on identifying security flaws and providing technical solutions.	10	12
2019-2020	925639	C# PROGRAMMING	This course is an introduction to the C# programming language. The goal of this course is to provide students with the knowledge and skills they need to develop C# applications for the Microsoft .NET Platform. Topics include program structure, language syntax, and implementation details. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests. At the end of the course, students will be able to: Analyze the basic structure of a C# application and be able to document, debug, compile, and run a simple application; Create, name, and assign values to variables; Use common statements to implement flow control, looping, and exception handling; Create methods (functions and subroutines) that can return values and take parameters; Create, initialize, and use arrays; Explain the basic concepts and terminology of object-oriented programming; Use common objects and reference types; Build new C# classes from existing classes.	10	12
2019-2020	925640	ADVANCED C# PROGRAMING	This course is a continuation of C# programming. Techniques for the improvement of application and systems programming will be covered and other topics may include developing GUI's with C#, memory management, Classes and objects, functions, debugging, portability, and reusable code. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925641	iOS APP DEVELOPMENT	In this course students learn to program apps for an iOS environment using a specified programming language. Student will be able to develop, build, deploy, and optimize an app for an iOS environment.	10	12
2019-2020	925642	ANDROID APP DEVELOPMENT	In this course students learn to program apps for an Android© operating system using a specified programming language. Student will be able to develop, build, deploy, and optimize an app for an Android© operating system.	10	12
2019-2020	925643	WINDOWS APP DEVELOPMENT	In this course students learn to program apps for a Windows© Phone system using a specified programming language. Student will be able to develop, build, deploy, and optimize an app for a Windows© Phone system.	10	12
2019-2020	925644	DATABASE MANAGEMENT SYSTEMS	This course will discuss database system architectures, concentrating on Structured Query Language (SQL). It will teach students how to design, normalize and use databases with SQL, and to link those to the Web.	10	12
2019-2020	925645	THREE DIMENSIONAL COMPUTER MODELING	This course is a study in 3D computer modeling and 3D painting beginning with primitive shapes and creating compelling 3D objects for use in model libraries, games, print material, web sites, visual simulation, and architectural applications. Powerful operations for modeling and 3D painting are incorporated into an interface that is simple and intuitive to use.	10	12
2019-2020	925646	THREE DIMENSIONAL COMPUTER ANIMATION	This course is a study in 3D computer animation. Course contents include a review of 3D modeling, rendering the 3D animations, compositing and special effects for both video and digital editing, video and film recording, storyboarding and sound design, technical testing and production estimates and scheduling.	10	12
2019-2020	925647	INTRODUCTION TO SQL PROGRAMMING - ORACLE	This course is designed to give students a firm foundation in concepts of relational databases, to create database structures and to store, retrieve, and manage data. Students will learn to query using Basic SQL statements, restrict, sort, perform single row functions and group the queried data. Students will write advanced SELECT statements and use advanced techniques such as ROLLUP, CUBE, set operators, and hierarchical retrieval. You will query multiple tables, perform nested queries, implement constraints, use data and time functions, and creates sequences and views. Students learn to write SQL and SQL* Plus script files using the iSQL* Plus tool to generate report-like output. Demonstrations and hands-on practice reinforces the fundamental concepts. This course is the first of two courses required to acquire certification as Oracle Certified Associate (OCA).	10	12
2019-2020	925648	ORACLE DATABASE ADMINISTRATION I	This course is designed to give students a firm foundation in basic administration of a database (i.e. Oracle Database 11g or higher). In this class, students learn how to install and maintain an Oracle Database. Students gain a conceptual understanding of the Oracle database architecture and how its components work and interact with one another. Students learn how to create an operational database and properly manage the various structures in an effective and efficient manner including performance monitoring, database security, user management, and backup/recovery techniques. The lesson topics are reinforced with structured hands-on practices. This course is the second of two courses required to acquire certification as Oracle Database Administrator – oracle Certified Associate (OCA) – maps to Oracle Exam 1Z0052.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925649	ORACLE DATABASE ADMINISTRATION II	In this course, the concepts and architecture that support backup and recovery, along with the steps of how to carry it out in various ways and situations, are covered in detail. This includes how to define and test our own backup and recovery scenarios. Students learn to manage memory effectively and to perform some performance evaluation and tuning tasks, including using some of the advisors. All types of flashback technologies, scheduling jobs inside and outside of the database, and controlling system resource usage are covered. Topics are reinforced with hands-on practices. This course counts towards the hand-on course requirement for the Oracle Database 11g Administrator Certification. This course is the second of two courses required to acquire certification as Oracle Database Administrator – oracle Certified Associate (OCA) – Maps to Oracle Exam 1Z0053.	10	12
2019-2020	925650	TRENDS IN OFFICE TECHNOLOGY	This course is designed to research current trends in office technology. Emphasis is on advances in technology relevant to the office environment such as electronic mail, multimedia interaction, presentation hardware and software, and Internet use. Upon completion, the student should be able to demonstrate an awareness of current technological applications for the modern office.	10	12
2019-2020	925651	INTRODUCTION TO RPG PROGRAMMING	This course introduces the fundamental concepts of RPG (Report Program Generator). It includes such topics as report preparation, control breaks, and file processing. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925652	CYBERTERRORISM	This course focuses on ways that computers can be used to assist in terrorist activity. Students will learn to assess the potential of various kinds of cyber attacks and will learn to devise plans and contingencies against future attacks. Topics include current U.S. policy regarding infrastructure protection and various avenues of addressing threats.	10	12
2019-2020	925653	ETHICAL HACKING	This course emphasizes scanning, testing, and securing computer systems. The lab-intensive environment provides opportunities to understand how perimeter defenses work and how hackers are able to compromise information systems. With awareness of hacking strategies, students learn to counteract those attempts in an ethical manner.	10	12
2019-2020	925654	MICROCOMPUTER OPERATING SYSTEMS	This course provides an introduction to microcomputer operating systems. Topics include a description of the operating system, system commands, and effective and efficient use of the microcomputer with the aid of its system programs. Upon completion, students should understand the function and role of the operating system, its operational characteristics, its configuration, how to execute programs, and efficient disk and file management.	10	12
2019-2020	925655	E-COMMERCE	This course is an introduction into e-commerce. Topics include marketing, building an e-commerce store, security, and electronic payment systems. Upon completion students will be able to build an e-commerce presence.	10	12
2019-2020	925656	C++ PROGRAMMING	This course is an introduction to the C++ programming language including object oriented programming. Topics include: problem solving and design; control structures; objects and events; user interface construction; and document and program testing.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925657	ADVANCED C++ PROGRAMMING	This course is a continuation of C++ programming. Techniques for the improvement of application and systems programming will be covered and other topics may include memory management, C Library functions, debugging, portability, and reusable code. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925658	JAVA PROGRAMMING	This course is an introduction to the Java programming language. Topics in this course include object-oriented programming constructs, Web page applet development, class definitions, threads, events and exceptions. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925659	ADVANCED JAVA	This course is a second course of a sequence using the Java programming language. Topics include: Sun's Swing GUI components, JDBC, JavaBeans, RMI, servlets, and Java media framework. Upon completion, the student will be able to demonstrate knowledge of the topics through programming projects and appropriate exams.	10	12
2019-2020	925660	ADVANCED MOBILE APP DEVELOPMENT	This course serves as a capstone class for app development. Students will conceive, design, develop and deploy a finished app for mobile platforms using specified app development software.	10	12
2019-2020	925661	COBOL PROGRAMMING	This course is an introduction to the COBOL programming language. Included are structured programming techniques, report preparation, arithmetic operations, conditional statements, group totals, and table processing. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925662	COMPUTER MAINTENANCE	This course provides students with hands-on practical experience in installing software, operating systems, trouble-shooting, and maintaining systems. The class will help to prepare participants for the A+ Certification sponsored by CompTIA.	10	12
2019-2020	925663	ENTERPRISE VIRTUALIZATION	This course is designed to provide students with the knowledge and skills required to implement enterprise virtualization. Students will gain hands-on experience installing, configuring, and managing enterprise virtualization technologies.	10	12
2019-2020	925664	SOFTWARE SUPPORT	This course provides students with hands-on practical experience in installing computer software, operating systems, and trouble-shooting. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This course is a suitable substitute for CIS 239, Networking Software. If used this is a CORE course for the AAT and AAS CIS programs.	10	12
2019-2020	925665	HARDWARE SUPPORT	This course provides students with hands-on practical experience in installation and troubleshooting computer hardware. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This is a suitable substitute for CIS 240, Networking Hardware. If used this is a CORE course for the AAT and AAS CIS programs.	10	12
2019-2020	925666	CISCO CCNA I	This course is the first part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	925667	CISCO CCNA II	This course is the second part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925668	CISCO CCNA III	This course is the third part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	925669	CISCO CCNA IV	This course is the fourth part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	925670	ADVANCED NETWORKING LAB	This lab is designed to allow instructors to provide additional application of networking concepts as needed. This course may be duplicated with an alpha suffix added to the course number.	10	12
2019-2020	925671	WORKSTATION ADMINISTRATION	This course provides a study of client system administration in a network environment. Topics include installing monitoring maintaining, and troubleshooting client operating system software and managing hardware devices and shared resources. Students gain hands-on experience in client operating system installation and basic administration of network workstations.	10	12
2019-2020	925672	SERVER ADMINISTRATION	This course introduces network operating system administration. Topics included in this course are network operating system software installation, administration, monitoring, and maintenance; user, group, and computer account management; shared resource management; and server hardware management. Students gain hands-on experience in managing and maintaining a network operating system environment.	10	12
2019-2020	925673	NETWORK SERVICES ADMINISTRATION	This course provides an introduction to the administration of fundamental networking services and protocols. Topics included in this course are implementing, managing, and maintaining essential network operating system services such as those for client address management, name resolution, security, routing, and remote access. Students gain hands-on experience performing common network infrastructure administrative tasks.	10	12
2019-2020	925674	DIRECTORY SERVICES ADMINISTRATION	This course provides a study of planning, implementing, and maintaining a network directory service. Topics included in this course are planning and implementing network directory organizational and administrative structures. Students gain hands-on experience using a directory service to manage user, group, and computer accounts., shared folders, network resources, and the user environment.	10	12
2019-2020	925675	NETWORK INFRASTRUCTURE DESIGN	This course provides a study of network infrastructure design. Topics included in this course are strategies for planning, implementing, and maintaining server availability and security, client addressing schemes, name resolution, routing, remote access, and network security. Students gain experience by designing plans for implementing common network infrastructure and protocols.	10	12
2019-2020	925676	NETWORK SECURITY	This course provides a study of threats to network security and methods of securing a computer network from such threats. Topics included in this course are security risks, intrusion detection, and methods of securing authentication, network access, remote access, Web access, and wired and wireless network communications. Upon completion students will be able to identify security risks and describe appropriate counter measures.	10	12
2019-2020	925677	SYSTEM ANALYSIS AND DESIGN	This course is a study of contemporary theory and systems analysis and design. Emphasis is placed on investigating, analyzing, designing, implementing, and documenting computer systems. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	925678	COMPUTER FORENSICS	This course introduces students to methods of computer forensics and investigations. This course helps prepare students for the International Association of Computer Investigative Specialists (IACIS) certification.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925679	UNDERSTANDING VOICE OVER INTERNET PROTOCOL (VoIP)	This course concentrates on router and switch configuration to route voice packets. Main focus will be on VoIP components, VoIP gateway and gatekeepers, VoIP protocols, routing operations in VoIP networks and deploying VoIP enterprise network. Students will also learn switch configuration to create proper VLAN, load balancing for voice packets and configuring call manager. After completing this course students will know PSTN and VoIP fundamentals, VoIP technologies, and VoIP quality and security. Students will be able to create a VoIP network in a small to large size LAN. Students will be able to configure call manager for voicemail and other phone features. Configurations will consist of securing voice calls using routers and switches. Students must have prior router and switch configuration experience. This is a hands-on lab oriented course.	10	12
2019-2020	925680	CIS IINTERNSHIP	This course is designed to provide the student with an opportunity to work in a degree/program related environment. Emphasis is placed on the student's "real world" work experience as it integrates academics with practical applications that relate meaningfully to careers in the computer discipline. Significance is also placed on the efficient and accurate performance of job tasks as provided by the "real world" work experience. Grades for this course will be based on a combination of the employer's evaluation of the student, and the contents of a report submitted by the student. Upon completion of this course, the student should be able to demonstrate the ability to apply knowledge and skills gained in the classroom to a "real world" work experience.	10	12
2019-2020	925681	OBJECT ORIENTED PROGRAMMING	This course is an advanced object-oriented programming course and covers advanced program development techniques and concepts in the context of an object-oriented language. Subject matter includes object-oriented analysis and design, encapsulation, inheritance, polymorphism (operator and function overloading), information hiding, abstract data types, reuse, dynamic memory allocation, and file manipulation. Upon completion, students should be able to develop a hierarchical class structure necessary to the implementation of an object-oriented software system.	10	12
2019-2020	925682	COMPUTERIZED MANAGEMENT INFO SYSTEMS	The nature of computerized management information systems, problems created by the computer relative to personnel, components of computer systems, programming, and application of computers to business problems.	10	12
2019-2020	925683	SQL SERVER	This course will provide students with the technical skill required to install, configure, administer and troubleshoot SQL Server client/server database management system. At the completion of this series students will be able to: identify the features of SQL Server and the responsibilities and challenges in system administration; identify the benefits of integrating SQL Server and setup clients for SQL Server; install and configure SQL Server; manage data storage using database devices and partition data using segments; manage the user accounts; manage user permissions; identify the various task scheduling and alerting abilities of SQL Executive; identify the concepts used in replication and implement replication of data between two SQL Services; identify the types of backup and create backup devices; identify the factors effecting SQL Server performance and the need for monitoring and tuning; locate and troubleshoot problems that occur on the SQL Server.	10	12
2019-2020	925684	WIRELESS NETWORKING	The purpose of this course is to allow students to explore current issues related to wireless technology. Students will be able to develop and maintain wireless networks using advancements in current technology.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925685	CASE STUDY IN COMPUTER SCIENCE	This course is a case study involving the assignment of a complete system development project for analysis, programming, implementation, and documentation. Topics include planning system analysis and design, programming techniques, coding and documentation. Upon completion, students should be able to design, code, test and document a comprehensive computer information system.	10	12
2019-2020	925686	CO-OP FOR CIS II	This course is part of a series wherein the student works in a degree/program related job. Emphasis is placed on student's work experience as it integrates academic knowledge with practical application through exposure to computer practices in informational technologies environment. The grade is based on the employer's evaluation of each student's productivity, content of a descriptive report submitted by the student, and student development and assessment of a learning contract.	10	12
2019-2020	925687	Advanced Networking	This course exposes students to networking concepts in increased breadth and depth. Advanced topics in networking architecture, operations and configuration are covered, as well as management and troubleshooting of common wired and wireless network devices. Also included is an introduction to network security, current industry standards and best practices and emerging technologies such as unified communications, mobile, cloud and virtualization technologies. Upon successful completion of this course, students will be able to demonstrate the essential knowledge and skills needed to confidently design, configure, manage and troubleshoot wired and wireless networks. This course, in combination with CIS 161 will prepare the student to sit for the CompTIA Network+ certification exam. Prerequisite: As required by college.	10	12
2019-2020	925688	Network Security and Risk Management	This course exposes students to essential concepts of networking security and IT risk management. Topics include design, protocols and administrative principles of secure networks, identification and elimination of threats and vulnerabilities, compliance and operational security, access control and identity management, application, data and host security, cryptography and current and evolving issues in network security. Upon successful completion of this course, students will be able to demonstrate the knowledge and skills necessary to identify security issues, to mitigate and deter threats, to apply security controls and to implement and maintain an organization's security policies. This course prepares students to sit for the CompTIA Security+ certification exam. Prerequisite: As required by college.	10	12
2019-2020	925689	IT Fundamentals	This is an introductory level course that covers the fundamentals of software, hardware, security, and networking, as well as basic IT skills such as workstation set-up, operating system navigation, simple support services, backup protocols, and safety. Upon completion of the course, students will understand the essential functions of IT professionals and be better positioned to make decisions about a career in information technology. This course prepares students to earn the CompTIA certification in IT Fundamentals. Prerequisite: None	10	12
2019-2020	925801	INTRODUCTION TO FASHION	This course provides an introduction into the apparel fashions trades. Topics include terminology, regulations, operations, fundamentals of textiles, manufactured apparel and custom apparel production. Emphasis is placed on apparel construction and production exercises for learning the manipulation of equipment, and tools. The study and selection of patterns, notions, and materials are applied to the construction of basic apparel. Upon completion, the student should be able to discuss the history, operations, and work ethics of the apparel fashions trade industry as well as construct a selected basic garment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925802	FASHION TECHNIQUES	This course provides the study and development of skills on textiles, specialized equipment, and tools. Emphasis is placed on proper operation of tools and equipment used in the apparel industry. Upon completion, students should be able to operate equipment, use tools, and select appropriate textiles correctly apply sewing techniques in the construction of basic garments.	10	12
2019-2020	925803	APPAREL PRODUCTION LINE AND METHODS	This course introduces methods of apparel construction with the application of production line assembling. Topics include methods and application of assembling apparel, the study of operational tickets, pay scale, and calculation of production. Upon completion, students should be able to operate various apparel construction machines and calculate production.	10	12
2019-2020	925804	CONCEPTS IN CLOTHING CONSTRUCTION	This course focuses on the principles, concepts, and application of basic garment construction. Topics include specialized textiles, the pattern envelope, measurements, pattern symbols, pattern layout, garment assembly, interfacing, linings, necklines and facings, collars, sleeves, closures, waistbands and pockets. Upon completion, students should understand garment construction techniques and applications as well as construct selected basic clothing.	10	12
2019-2020	925805	BASIC CLOTHING CONSTRUCTION	In this course, students study and apply the principles and concepts of basic clothing construction. Topics include pattern selection, pattern alteration, and constructions techniques. Upon completion, students should be able to construct selected basic clothing and apply appropriate techniques.	10	12
2019-2020	925806	APPAREL PRODUCTION LAB	In this course, students apply principles of apparel construction. Topics include guide sheet instructions and simple to advanced apparel construction techniques. Upon completion, students should be able to follow a guide sheet and be able to construct several garments using various fabrics.	10	12
2019-2020	925807	ADVANCED CLOTHING PRODUCTION	In this course, students use advanced clothing construction and contour sewing techniques. Emphasis is placed on clothing construction machinery developing speed and accuracy while constructing clothing. Upon completion, students should be able to operate apparel construction machinery with speed and accuracy while constructing clothing.	10	12
2019-2020	925808	TEXTILES	This course introduces students to the essential concepts and principles of the textile industry and the development of textile fabrics. Topics include basic terminology, fundamental fabric analysis, natural and manufactured fibers, general textile properties, yarns, construction, preparation, coloration, finishings, laws and regulations. Upon completion, students should know and be able to apply terminology, regulations, textile characteristics and operations of the textile industry, and be able to identify fabrics for end use.	10	12
2019-2020	925809	TEXTILE ANALYSIS	In this course, students test and analyze apparel and home furnishing textiles. Topics include semi-technical tests to determine the composition and other properties of fabrics and examine fabrics. Upon completion, students should be able to identify face and back of fabric, the fabric content and construction, the end use of fabric, and the fabric characteristics and suitability.	10	12
2019-2020	925810	BASIC TAILORING	This course focuses on basic tailoring techniques in garment construction. Topics include pattern selection, customization, layout, and construction of the garment(s). Upon completion, students will demonstrate skills in pattern selection, basic tailoring techniques, alterations, and fitting a tailored jacket.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925811	ADVANCED TAILORING	This course focuses on advanced tailoring techniques. Included are advanced techniques in pattern selection, customization, layout, and construction of completely lined apparel. Upon completion, students should be able to select advanced patterns and apply advanced tailoring techniques to fit and construct completely lined/tailored apparel.	10	12
2019-2020	925812	CLOTHING ALTERATIONS AND MENDING	This course focuses on simple to advanced altering and mending techniques for ready-to-wear apparel. Topics include fitting, altering, and remodeling clothing. Upon completion, students should be able to appropriately fit, alter, and remodel garments.	10	12
2019-2020	925813	FASHION APPAREL AND ACCESSORIES	This course introduces students to fashion accessories and related materials, manufacturing, and merchandising. Topics include buying functions, supporting services, fashion entrepreneurship, auxiliary services, retailing and wholesaling. Upon completion, students should understand concepts and practices applicable to different levels of the fashion industry.	10	12
2019-2020	925814	BASIC SERGER CONSTRUCTION	In this course, students apply over-lock stitch methods. Emphasis is placed on basic over-lock stitch techniques, various stitches, seams, and hems, used in the construction of apparel, and custom finishes with special threads, ribbons, etc. Upon completion, students should be able to operate an over-lock machine and construct applicable pieces of apparel.	10	12
2019-2020	925815	PATTERN ADJUSTMENTS & FITTING	This course provides the fundamentals of fitting and pattern adjusting. Emphasis is placed on analyzing figure proportions, shapes, contours, and profiles as it applies to applications. The comparison of method of fitting, pattern alterations and grading. Upon completion, students should be able to apply the fundamental techniques in figure analysis, fitting and pattern adjusting.	10	12
2019-2020	925816	BASIC WINDOW FASHIONS	This course provides the fundamentals of fitting and pattern adjusting. Emphasis is placed on analyzing figure proportions, shapes, contours, and profiles as it applies to applications. The comparison of method of fitting, pattern alterations and grading. Upon completion, students should be able to apply the fundamental techniques in figure analysis, fitting and pattern adjusting.	10	12
2019-2020	925817	ADVANCED WINDOW FASHIONS	This course focuses on advanced planning and production of professional window fashions. Topics include interior and exterior windows, fashionable treatments, function, selection, placement, hardware, installation, measurement, calculating material quantities, and window fashions construction techniques. Upon completion, students should be able to select appropriate material for a given window, measure and calculate the amount of material needed, construct and install advanced window fashions	10	12
2019-2020	925818	INTERIOR FASHION FURNISHINGS	This course focuses on the study of interior decorating and the production of fashionable interior furnishings. Topics include pillows, bedding, slipcovers, living rooms, dens, bed and bathroom accessories, and other interior residential housing accessories. Upon completion, students should be able to select, plan, measure, calculate materials, and construct selected fashionable interior furnishings project.	10	12
2019-2020	925819	INTERIOR FASHION FURNISHINGS - II	This course covers the study and applications of interior decorating and the production of soft interior furnishings. Topics include table decorations, bathroom accessories, storage, closets, as well as other interior/ exterior residential housing accessories. Upon completion, students should be able to measure, calculate and select materials appropriate, and construct a selected fashionable interior furnishings project.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	925820	SPECIAL PROJECTS/CO-OP	This course allows students to study particular topics in depth or work in the field of apparel or interior industry. Emphasis is placed on the subject areas of student interest. Upon completion students should be able to work with minimal instruction and execute the necessary techniques to finish a project or refine technical and soft skills.	10	12
2019-2020	925821	EMBROIDERY AND APPLIQUES	This course introduces the basic embroidery terminology and fundamental procedures of machine embroidery techniques and business marketing. Hands-on experiences will be achieved through monogramming, appliqués and embroidering on various textiles. Upon completion the student will be knowledgeable of embroidery terminology and be able to set-up an embroidery machine, monogram, embroider and fasten appliqués on apparel and fabric.	10	12
2019-2020	926001	CONSTRUCTION MATERIALS AND METHODS	The purpose of this course is to introduce the student to the materials, methods, and equipment used in building construction. Emphasis will be placed on the construction process and how the various materials and equipment relate to the different stages of the process. Upon completion of this course the student will understand the total building process, know the various materials used in each stage of construction, understand the techniques and methods used with different materials, and specify materials with essential characteristics.	10	12
2019-2020	926002	CONSTRUCTION BLUEPRINT READING	The purpose of this course is to introduce the student to blueprint reading pertinent to the construction industry. Emphasis will be placed on object visualization, symbols, abbreviations, and terminology. Upon completion of this course the student will be able to visualize in three-dimensions the building from its working drawings, identify the various parts of the building, and understand the specification documents.	10	12
2019-2020	926003	10 HOUR OSHA CONSTRUCTION SAFETY	The purpose of this course is to introduce the student to OSHA and the regulations present within the construction industry. Upon completion of this course the student will be able to identify the primary safety rules established by OSHA, know reporting procedures, as well as, being able to use the OSHA manual. Emphasis will be placed on the importance of safety, OSHA, safety programs, and safety procedures. Students completing this course will receive their ten hour OSHA certification.	10	12
2019-2020	926004	CONSTRUCTION SAFETY	The purpose of this course is to introduce the student to the safety practices used in the construction industry. Emphasis will be placed on the importance of safety, OSHA, safety programs, and safety procedures. Upon completion of this course the student will know how to safely work on a construction site.	10	12
2019-2020	926005	CONSTRUCTION PROBLEM SOLVING	The purpose of this course is to introduce the student to the construction related problem solving using spreadsheets and construction calculators. Emphasis is on using the various functions of the construction calculator and developing the skills necessary to estimate elements of a construction project, and developing spreadsheets used for estimating various construction applications.	10	12
2019-2020	926006	CONCRETE TESTING	The purpose of this course is to introduce the student to the properties of concrete and to provide an understanding of the precautions that must be taken during the curing process. Emphasis will be placed on hands on activities to understand how concrete hardens and gains strength. How freezing damages concrete during the curing period and understanding the precautions necessary to prevent concrete from drying during the curing period.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926007	CONTRACTING AND CONSTRUCTION LAW	The purpose of this course is to introduce the student to law practices pertinent to the construction industry. Emphasis will be placed on law as it relates to the contractor. Upon completion of this course the student will understand articles of incorporation, building contracts, contracts for the purchase of labor and materials, construction loans, the various types of construction agreements, permits, plans and specifications, warranties, and insurance.	10	12
2019-2020	926008	INTRODUCTION TO SUSTAINABLE CONSTRUCTION	The purpose of this course is to introduce the student to the Green Building movement in response to the growing demand for sustainable, healthy, and energy-efficient construction methods. Students will study the proven methods of new and remodeled green construction. Emphasis will be placed on teaching the hard science and the commonsense solutions to building sustainable, healthy and energy-efficient structures. Upon completion of this course a student will be aware of the building science theory of green construction.	10	12
2019-2020	926009	CONSTRUCTION MANAGEMENT	The purpose of this course is to introduce the student to the principles and practices used in managing the various aspects of the construction process. Emphasis will be placed on pertinent business procedures. Upon completion of this course the student will know how to organize, bid, purchase, account for, plan, and schedule a construction job.	10	12
2019-2020	926010	CONSTRUCTION ESTIMATING	The purpose of this course is to introduce the student to the principles and practices used in estimating construction costs. Emphasis will be on a methodical approach to estimating each cost element of a construction project. Upon completion of this course the student will know the methods and procedures used in estimating, making quantity surveys from working drawings, developing unit costs, developing subcontractor costs, and will be able to identify the major considerations involved in the total pricing of a construction project.	10	12
2019-2020	926011	PROJECT PLANNING AND SCHEDULING	The purpose of this course is to introduce the student to the tools and techniques used to plan, schedule and control a construction project. Students will learn how to prepare Gantt Charts and schedules using the Critical Path Method, Precedence Networks, PERT, GERT and the Linear Scheduling Method. Special emphasis will be placed on using scheduling software. Upon completion, the student will be able to prepare project schedules using various scheduling tools and technology, allocate and level resources, maintain and update a project schedule, and resolve construction delay claims.	10	12
2019-2020	926012	ELECTRICAL & MECHANICAL EQUIPMENT IN BUILDINGS	Topics include load estimation, motor circuits, transformers, fault calculations, and switch gear. Upon completion of this course a student will be able to plan and design an electrical distribution network for an industrial plant.	10	12
2019-2020	926013	SOFTWARE APPLICATIONS IN CONSTRUCTION	The purpose of this course is to introduce the student to software used in a construction office. This will include scheduling, financial management, and construction records. Upon completion of this course the student will know how to organize, bid, purchase, account for, plan, and schedule a construction job using various computer software packages.	10	12
2019-2020	926201	INTRODUCTION TO CNC	This is an introductory course with emphasis placed in the basic concepts and terminology of numerical control. Topics include Cartesian coordinate system, CNC principles and machine capabilities. Student will gain an understanding of CNC machine tools and their usage.	10	12
2019-2020	926202	CNC TURNING OPERATIONS	This course is a study introducing the student to two-axis part programming. Applications of graphics programming and lathe set-up are also included. Students will learn to write CNC Turning programs, set-up and operate the CNC lathe.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926203	MANUAL PROGRAMMING	This course will emphasize calculations for CNC machine tools. Topics will include G & M codes, radius programming and cutter compensations. Students will learn to write a variety of CNC programs which can be used on the job as reference programs.	10	12
2019-2020	926204	CNC MILLING OPERATIONS	This is a course in programming and operations of the CNC Milling Machines. Applications include maintenance, safety, and production of machine parts through programming, set-up and operation. Students will learn to produce finished parts on the CNC milling machines.	10	12
2019-2020	926205	INTRODUCTION TO COMPUTER NUMERICAL CONTROL	This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage. CORE	10	12
2019-2020	926206	COMPUTER NUMERIC CONTROL TURNING	This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning center.	10	12
2019-2020	926207	COMPUTER NUMERIC CONTROL MILLING	This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.	10	12
2019-2020	926208	BASIC COMPUTER NUMERICAL CONTROL	This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.	10	12
2019-2020	926209	APPLIED GEOMETRY FOR CNC MACHINE	This course introduces applied geometry as it relates to CNC. Emphasis is placed on geometry applied to problem solving used to make calculations for machining parts for CNC from engineering drawings. Upon completion students should be able to solve problems required for planning, making, and checking of machined parts.	10	12
2019-2020	926210	APPLIED TRIGONOMETRY FOR CNC MACHINING	This course introduces the concepts of applied trigonometry for CNC machining. Topics include computing unknown sides, angles, projection of auxiliary lines to solve two or more right triangles as it relates to CNC programming and precision machining. Upon completion students should be able to analyze and make computations in orderly steps to make and inspect parts.	10	12
2019-2020	926211	METALLURGY	This course covers the production, properties, testing, classification, microstructure, and heat treating effects of ferrous and non-ferrous metals. Topics include the iron-carbon phase diagram, ITT diagram, ANSI code, quenching, senescing, and other processes concerning metallurgical transformations. Upon completion, students should be able to understand the iron-carbon phase diagram, ITT diagram, microstructure images, and other phenomena concerning the behavior of metals.	10	12
2019-2020	926212	JIG AND FIXTURE CONSTRUCTION PRINCIPLES	This course provides a basic study in the construction and application of jigs and fixtures. Emphasis is placed on types and functions, basic design and construction, and design economic considerations of jigs and fixtures. Upon completion, students should be able to design and build jigs, fixtures, and tooling.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926213	TOOLMAKERS TECHNOLOGY	This course covers the use of precision measuring instruments and interpreting engineering drawings. Emphasis is placed on the inspection of machine parts using a wide variety of measuring instruments and interpreting engineering drawings using modern conventions, symbols, datums, datum targets, projected tolerance zones, and industry specifications and standards. Upon completion students should be able to demonstrate correct use of measuring instruments and display print reading skills in line with NIMS certification standards.	10	12
2019-2020	926214	DIE FUNDAMENTALS	The purpose of this course is to teach the general fundamentals of stamping. Topics include the dangers of a press operation, the primary components of presses and their functions, the operations of various types of dies, various stamping production methods, and the numerous components used to make up various dies. Upon completion students should be completely familiar with stamping operations and have a fundamental knowledge of how dies are constructed and how they shape material.	10	12
2019-2020	926215	DIE CONSTRUCTION AND TRYOUT	This course is an introduction into constructing and testing dies. Emphasis is placed on safety, machining skills, die construction, and die tryout. Upon completion the students should be able to read a print, construct the die from that print, and test its performance.	10	12
2019-2020	926216	DIE MAINTENANCE AND REPAIR	This course serves as a follow on to AUT 160 Tool and Die Construction and Tryout. Emphasis is placed on safety, inspection, measurement, sharpening, grinding, disassembly, and the reassembly process. Upon completion the students should be able to safely inspect a die and perform the necessary functions to insure it is ready for use.	10	12
2019-2020	926217	ADVANCED COMPUTER NUMERICAL CONTROL TURNING	This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers.	10	12
2019-2020	926218	ADVANCED COMPUTER NUMERICAL CONTROL MILLING	This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.	10	12
2019-2020	926219	ELECTRICAL DISCHARGE MACHINE PROGRAMMING	This course introduces the programming, setup, and operation of CNC electrical discharge machines. Topics include programming formats, control functions, program editing, production of parts, and inspection. Upon completion, students should be able to manufacture simple parts using CNC electrical discharge machines.	10	12
2019-2020	926220	QUALITY CONTROL AND ASSURANCE	This is an advanced course in parts inspection using Geometric Dimensioning and Tolerancing, and familiarization of the Coordinate Measuring Machine. Topics include part set-up, tolerance applications, maximum material and least material conditions, perpendicularity and point of intersection. Upon completion, the student should be able to inspect machined parts demonstrating an understanding of G.D.T. and C.M.M.	10	12
2019-2020	926221	QUALITY CONTROL II	This course is a continuation of CNC 207. Topics include set-up, and operation of a CNC coordinate measuring machine. Students will learn to program and set-up a complex part for inspection.	10	12
2019-2020	926222	TOOLING AND MACHINING DATA	This course focuses on technical applications in cutting tool technologies. Emphasis is placed on machining data for material removal parameters on turning and milling machines. Students will learn tool selection, tool terminology and material removal calculations.	10	12
2019-2020	926223	PROGRAMMING AND SET-UP FOR ELECTRICAL DISCHARGE MACHINING	This course introduces the student to the concept of EDM (Electrical Discharge Machining). Topics include principles, programming techniques, set-up and operation. Students will learn to produce basic machine parts.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926224	ADVANCED BLUEPRINT READING FOR MACHINISTS	This course introduces more complex industrial blueprints. Emphasis is placed on auxiliary views, section views, violations of true project, special views, applications of GD & T, and interpretation of complex parts. Upon completion, students should be able to read and interpret complex industrial blueprints.	10	12
2019-2020	926225	COMPUTER NUMERICAL CONTROL GRAPHICS: TURNING	This course introduces Computer Numerical Control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system and to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, include machine selection, tool selection, operational sequence, speed, feed and cutting depth.	10	12
2019-2020	926226	COMPUTER NUMERICAL CONTROL GRAPHICS PROGRAMMING: MILLING	This course introduces Computer Numerical Control graphics programming and concepts for machining center applications. Emphasis is placed on developing a shape file in a graphics CAM system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, students should be able to develop a complete job plan using CAMM software to create a multi-axis CNC program.	10	12
2019-2020	926227	COMPUTER NUMERICAL CONTROL SPECIAL PROJECTS	This course is designed to allow students to work in the lab with limited supervision. The student is to enhance their proficiency levels on various CNC machine tools. Upon completion, students are expected to plan, execute, and present results of advanced CNC products.	10	12
2019-2020	926228	BASIC TOOL AND DIE	This course introduces the application and use of jigs, fixtures and stamping dies. Emphasis is placed on design and manufacture of simple jigs, fixtures and stamping dies. Upon completion, students should be able to design and build simple jigs, fixtures and stamping die components.	10	12
2019-2020	926229	PRECISION MACHINING PRACTICES	This course is designed to teach construction, operation and safety precautions of the JIG-BORE and hardinge chucker lathe. Topics include precision boring, facing head and rotary table. Upon completion, students should be able to manufacture parts with extreme close tolerance.	10	12
2019-2020	926230	BASIC DIE CONSTRUCTION	This course is designed to teach construction, maintenance, operation and safety as related to tool and die construction. Topics include blanking, piercing, bending. Upon completion, students should be able to design and build blanking dies and bending dies.	10	12
2019-2020	926231	CNC MILLING LAB I	This course covers basic (3-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a 3-axis CNC milling machine to produce a specified part. Related safety, inspection, and process adjustment are also covered.	10	12
2019-2020	926232	CNC MILLING LAB II	This course covers advanced (including 4-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a CNC milling machine (including 4-axis) to produce a specified part. Related safety and inspection and process adjustment are also covered.	10	12
2019-2020	926401	INTRODUCTION TO COSMETOLOGY	This course is designed to provide students with an overview of the history and development of cosmetology and standards of professional behavior. Students receive basic information regarding principles and practices of infection control, diseases, and disorders. Additionally students receive introductory information regarding hair design. The information presented in this course is enhanced by hands-on application performed in a controlled lab environment. Upon completion, students should be able to apply safety rules and regulations and write procedures for skills identified in this course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926402	INTRODUCTION TO COSMETOLOGY LAB	In this course, students are provided the practical experience for sanitation, shampooing, hair shaping, and hairstyling. Emphasis is placed on disinfection, shampooing, hair shaping, and hairstyling for various types of hair for men and women. This course offers opportunities for students to put into practice concepts learned in the theory component from COS 111. This is a CORE course.	10	12
2019-2020	926403	THEORY OF CHEMICAL SERVICES	During this course students learn concepts of theory of chemical services related to the chemical hair texturing. Specific topics include basics of chemistry and electricity, properties of the hair and scalp, and chemical texture services. Safety considerations are emphasized throughout this course. This course is foundational for other courses providing more detailed instruction on these topics. This is a core course.	10	12
2019-2020	926404	CHEMICAL SERVICES LAB	During this course students perform various chemical texturing activities. Emphasis is placed on cosmetologist and client safety, chemical use and handling, hair and scalp analysis, and client consulting. This is a CORE course.	10	12
2019-2020	926405	HAIR COLORING THEORY	In this course, students learn the techniques of hair coloring and hair lightening. Emphasis is placed on color application, laws, levels and classifications of color and problem solving. Upon completion, the student will should be able to identify all classifications of haircoloring and the effects on the hair. This is a CORE course.	10	12
2019-2020	926406	HAIR COLORING LAB	In this course, students apply hair coloring and hair lightening techniques. Topics include consultation, hair analysis, skin test and procedures and applications of all classifications of hair coloring and lightening. Upon completion, the student will be able to perform procedures for hair coloring and hair lightening. This is a core course	10	12
2019-2020	926407	BASIC SPA TECHNIQUES	This course is the study of cosmetic products, massage, skin care, and hair removal, as well as identifying the structure and function of various systems of the body. Topics include massage skin analysis, skin structure, disease and disorder, light therapy, facials, facial cosmetics, anatomy, hair removal, and nail care. Upon completion, the student will be able to state procedures for analysis, light therapy, facials, hair removal, and identify the structures, functions, disorders of the skin, and nail care. This is a CORE course.	10	12
2019-2020	926408	BASIC SPA TECHNIQUES Lab	This course provides practical applications related to the care of the skin and related structure. Emphasis is placed on facial treatments, product application, skin analysis, massage techniques, facial make-up, hair removal, and nail care. Upon completion, the student should be able to prepare clients, assemble sanitized materials, follow procedures for product application, recognize skin disorders, demonstrate facial massage movement, cosmetic application, and hair removal using safety and sanitary precautions, and nail care. This is a CORE course.	10	12
2019-2020	926409	BUSINESS OF COSMETOLOGY	This course is designed to develop job-seeking and entry-level management skills for the beauty industry. Topics include job seeking, leader and entrepreneurship development, business principles, business laws, insurance, marketing, and technology issues in the workplace. Upon completion, the student should be able to list job-seeking and management skills and the technology that is available for use in the salon.	10	12
2019-2020	926410	COSMETOLOGY SALON PRACTICES	This course is designed to allow students to practice all phases of cosmetology in a salon setting. Emphasis is placed on professionalism, receptionist duties, hair styling, hair shaping, chemical, and nail and skin services for clients. Upon completion, the student should be able to demonstrate professionalism and the procedures of cosmetology in a salon setting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926411	CAREER AND PERSONAL DEVELOPMENT	This course provides the study and practice of personal development and career building. Emphasis is placed on building and retaining clientele, communication skills, customer service, continuing education, and goal setting. Upon completion, the student should be able to communicate effectively and practice methods for building and retaining clientele.	10	12
2019-2020	926412	ESTHETICS THEORY	This course includes an advanced study of anatomy and physiology relating to skin care, cosmetic chemistry, histology of the skin, and massage and facial treatments. Upon completion, the student should be able to discuss the functions of the skin, effects of chemicals on skin, different types of massage and benefits, and key elements of the basic facial treatment.	10	12
2019-2020	926413	SALON MANAGEMENT TECHNOLOGY	This course is designed to develop entry-level management skills for the beauty industry. Topics include job-seeking, leader and entrepreneurship development, business principles, business laws, insurance, marketing, and technology issues in the workplace. Upon completion, the student should be able to list job-seeking and management skills and the technology that is available for use in the salon.	10	12
2019-2020	926414	ADVANCED ESTHETICS	This course includes an advanced study of anatomy and physiology relating to skin care, cosmetic chemistry, histology of the skin, and massage and facial treatments. Upon completion, the student should be able to discuss the functions of the skin, effects of chemicals on skin, different types of massage and benefits, and key elements of the basic facial treatment.	10	12
2019-2020	926415	ADVANCED ESTHETICS APPLICATIONS	This course provides advanced practical applications related to skin care. Principal topics include massage techniques, various facial treatments, proper product application through skin analysis, and introduction to ingredients and treatments used by the esthetician. Upon completion, the student should be able to perform various massage techniques, prescribe proper type of facial treatment and product, and demonstrate facials using any of the eight functions of the facial machine.	10	12
2019-2020	926416	HAIR SHAPING AND DESIGN THEORY	This course introduces students to concepts related to the art and techniques of hair shaping. Topics include hair sectioning, correct use of hair shaping implements, and elevations used to create design lines.	10	12
2019-2020	926417	APPLIED CHEMISTRY FOR COSMETOLOGY	This course focuses on chemistry relevant to professional hair and skin care products, hair and its related structures, permanent waving, chemical hair relaxing, and hair coloring. Topics include knowledge of basic chemistry, pH scale measurements, water, shampooing and cosmetic chemistry, physical and chemical changes in hair structure. Upon completion, the student should be able to define chemistry, types of matter, and describe chemical and cosmetic reactions as related to the hair and skin structure.	10	12
2019-2020	926418	APPLIED CHEMISTRY FOR COSMETOLOGY LAB	This course provides practical applications of the knowledge and skin learned in reference to chemical reactions, as well as the chemical application to the hair and skin. Emphasis is placed on knowledge of basic chemistry, pH scale, cosmetic chemistry, and physical and chemical changes in the hair and skin structure. Upon completion, the student should be able to determine the proper chemical product for each prescribed service.	10	12
2019-2020	926419	SPECIALTY HAIR PREPARATION TECHNIQUES	This course focuses on the theory and practice of hair designing. Topics include creating styles using basic and advanced techniques of back combing, up sweeps and braiding. Upon completion, the student should be able to demonstrate the techniques and procedures for hair designing.	10	12
2019-2020	926420	HAIR SHAPING AND DESIGN	In this course, students learn the art and techniques of hair shaping. Topics include hair sectioning, correct use of hair shaping implements, and elevations used to create design lines. Upon completion, the student should be able to demonstrate the techniques and procedures for creating hair designs.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926421	HAIR SHAPING LAB	This covers the study of the art and techniques of hair shaping. Topics include hair sectioning, correct use of hair shaping implements, and elevations used to create design lines. Upon completion, the student should be able to demonstrate the techniques and procedures for creating hair designs using safety and sanitary precautions.	10	12
2019-2020	926422	HAIR ADDITIONS	This course focuses on the practice of adding artificial hair. Topics include hair extensions, weaving, and braiding. Upon completion, the student should be able to demonstrate the techniques and procedures for attaching human and synthetic hair.	10	12
2019-2020	926423	NAIL CARE THEORY	This course focuses on all aspects of nail care. Topics include salon conduct, professional ethics, sanitation, nail structure, manicuring, pedicuring, nail disorders, and anatomy and physiology of the arm and hand. Upon completion, the student should be able to demonstrate professional conduct, recognize nail disorders and diseases, and identify the procedures for sanitation and nail care services.	10	12
2019-2020	926424	NAIL ART THEORY	This course focuses on nail enhancement products and techniques. Topics include acrylic, gel, fiberglass nails, and nail art. Upon completion, the student should be able to identify the different types of sculptured nails and recognize the different techniques of nail art.	10	12
2019-2020	926425	MANICURING	This course focuses on the theory and practice of nail care. Topic include sanitation nail structure, nail disorders and diseases, manicuring, pedicuring, nail wrapping, sculptured nails and acrylic overlays.	10	12
2019-2020	926426	NAIL CARE	This course focuses on all aspects of nail care. Topics include salon conduct, professional ethics, sanitation, nail structure, manicuring, pedicuring, nail disorders, and anatomy and physiology of the arm and hand. Upon completion, the student should be able to demonstrate professional conduct, recognize nail disorders and diseases, and identify the procedures for sanitation and nail care services.	10	12
2019-2020	926427	NAIL CARE APPLICATIONS	This course provides practice in all aspects of nail care. Topics include salon conduct, professional ethics, bacteriology, sanitation and safety, manicuring and pedicuring. Upon completion, the student should be able to perform nail care procedures.	10	12
2019-2020	926428	NAIL ART	This course focuses on advanced nail techniques. Topics include acrylic, gel, fiberglass nails, and nail art. Upon completion, the student should be able to identify the different types of sculptured nails and recognize the different techniques of nail art.	10	12
2019-2020	926429	NAIL ART APPLICATIONS	This course provides practice in advanced nail techniques. Topics include acrylic, gel, fiberglass nails, and nail art. Upon completion, the student should be able to perform the procedures for nail sculpturing and nail art.	10	12
2019-2020	926430	EMPLOYABILITY SKILLS	This course provides the study of marketable skills to prepare the student to enter the world of work. Emphasis is placed on resumes, interviews, client and business relations, personality, computer literacy and attitude. Upon completion, the student should be prepared to obtain employment in the field for which they have been trained.	10	12
2019-2020	926431	FACIAL TREATMENTS	This course includes all phases of facial treatments in the study of skin care. Topics include treatments for oily, dry, and special skin applications. Upon completion, students will able to apply facial treatments according to skin type.	10	12
2019-2020	926432	FACIAL MACHINE	This is a course designed to provide practical experience using the vapor and facial machine with hydraulic chair. Topics include the uses of electricity and safety practices, machine and apparants, use of the magnifying lamp, and light therapy. Upon completion, the student will be able to demonstrate an understanding of electrical safety and skills in the use of facial machines.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926433	RELATED SUBJECTS ESTHETICIANS	This course includes subjects related to the methods for removing unwanted hair. This course includes such topics as electrolysis information and definitions, safety methods of permanent hair removal, the practice of removal of superfluous hair, and the use of depilatories. Upon completion of this course, students will be able to apply depilatories and practice all safety precautions.	10	12
2019-2020	926434	SKIN CARE BACTERIOLOGY AND SANITATION	This course introduces students to bacteriology and sanitation of skin care implements. Emphasis is placed on decontamination, infection control, and safety. At the end of this course students will be able to describe practices for sanitizing facial implements and proper use and disposal of non-reusable items.	10	12
2019-2020	926435	STATE BOARD REVIEW	This course introduces students to bacteriology and sanitation of skin care implements. Emphasis is placed on decontamination, infection control, and safety. At the end of this course students will be able to describe practices for sanitizing facial implements and proper use and disposal of non-reusable items.	10	12
2019-2020	926436	BACTERIOLOGY AND SANITATION	In this skin care course, emphasis is placed on the decontamination, infection control and safety practiced in the esthetics facility. Topics covered include demonstration of sanitation, sterilization methods and bacterial prevention. Upon completion, the student will be able to properly sanitize facial implements and identify non-reusable items.	10	12
2019-2020	926437	SKIN FUNCTIONS	This course introduces skin functions and disorders. Topics include practical application for skin disorder treatments, dermabrasion, and skin refining. Upon completion of this course students will be able to demonstrate procedures for acne, facials and masks for deeper layers and wrinkles.	10	12
2019-2020	926438	INTERNSHIP IN COSMETOLOGY	This course is designed to provide exposure to cosmetology practices in non-employment situations. Emphasis is on dependability, attitude, professional judgment, and practical cosmetology skills. Upon completion, the student should have gained skills necessary for entry-level employment.	10	12
2019-2020	926439	CO-OP	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	926440	CO-OP	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	926601	INTRO TO INFO SYSTEMS	This course is an introduction to computers that reviews computer hardware and software concepts such as equipment, operations, communications, programming and their past, present and future impact on society. Topics include computer hardware, various types of computer software, communication technologies and program development using computers to execute software packages and/or to write simple programs. Upon completion, students should be able to describe and use the major components of selected computer software and hardware.	10	12
2019-2020	926602	FUNDAMENTALS OF WIRELESS LANs	This course is an introductory course about the design, planning, implementation, operation, and troubleshooting of wireless networks. It is intended to prepare students for the Cisco Wireless LAN Support Specialist designation.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926603	HELP DESK APPLICATIONS	The main purpose of this course is to provide students with a comprehensive understanding of the helpdesk environment and the knowledge, skills, and abilities necessary to work in the user support industry. Students will learn problem-solving and communication skills that are very valuable when providing user support. Through hands-on exercises and case projects students will learn how to apply their knowledge and develop their ideas and skills.	10	12
2019-2020	926604	INTRODUCTION TO WEB DEVELOPMENT	At the conclusion of this course, students will be able to use specified markup languages to develop basic Web pages.	10	12
2019-2020	926605	NETWORK SERVICE AND SUPPORT	This course covers the installation of network-related hardware and the prevention, diagnosis and resolution of hardware-related networking problems.	10	12
2019-2020	926606	NETWORK INSTALLATION AND DESIGN	This course covers upgrading, migrating and installing networks. It is designed to provide students with the necessary skills to install, configure and maintain an intranet. Students will receive step-by-step instruction on how to incorporate the service components of DNS, DHCP, RRAS, file, print and security.	10	12
2019-2020	926607	NETWORK DESIGN AND IMPLEMENTATION	This course covers how to design and create a network implementation plan for a case-study company. Interactive group activities lead the student through this process to assess the needs of the case company.	10	12
2019-2020	926608	STRUCTURED CABLING	This course provides students an introduction to data, voice, and video cabling. This course will address the latest developments in premises cabling, including technologies and applications in copper, fiber, and wireless cabling. This course will also cover important background information and resources regarding the most recent cabling standards, which are an integral part of this fast-paced industry. This course also provides students with hands-on practical experience in cabling.	10	12
2019-2020	926609	SOFTWARE SUPPORT	This course provides students with hands-on practical experience in installing computer software, operating systems, and trouble-shooting. The class will help to prepare participants for the A+ Certification sponsored by CompTIA.	10	12
2019-2020	926610	CISCO I	This course is the first part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	926611	CISCO II	This course is the second part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	926612	CISCO III	This course is the third part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	926613	CISCO IV	This course is the fourth part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. The content of this course is based on current requirements from the CISCO Networking Academy certification standards.	10	12
2019-2020	926614	SERVER ADMINISTRATION	This course introduces network operating system administration. Topics included in this course are network operating system software installation, administration, monitoring, and maintenance; user, group, and computer account management; shared resource management; and server hardware management. Students gain hands-on experience in managing and maintaining a network operating system environment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926615	NETWORK SERVICES ADMINISTRATION	This course provides an introduction to the administration of fundamental networking services and protocols. Topics included in this course are implementing, managing, and maintaining essential network operating system services such as those for client address management, name resolution, security, routing, and remote access. Students gain hands-on experience performing common network infrastructure administrative tasks.	10	12
2019-2020	926616	DIRECTORY SERVICES ADMINISTRATION	This course provides a study of planning, implementing, and maintaining a network directory service. Topics included in this course are planning and implementing network directory organizational and administrative structures. Students gain hands-on experience using a directory service to manage user, group, and computer accounts, shared folders, network resources, and the user environment.	10	12
2019-2020	926617	NETWORK INFRASTRUCTURE DESIGN	This course provides a study of network infrastructure design. Topics included in this course are strategies for planning, implementing, and maintaining server availability and security, client addressing schemes, name resolution, routing, remote access, and network security. Students gain experience by designing plans for implementing common network infrastructure and protocols.	10	12
2019-2020	926618	NETWORK SECURITY	This course provides a study of threats to network security and methods of securing a computer network from such threats. Topics included in this course are security risks, intrusion detection, and methods of securing authentication, network access, remote access, Web access, and wired and wireless network communications. Upon completion students will be able to identify security risks and describe appropriate counter measures.	10	12
2019-2020	926619	COMPUTER FORENSICS AND INVESTIGATION	This course introduces students to methods of computer forensics and investigations. This course helps prepare students for the International Association of Computer Investigative Specialists (IACIS) certification.	10	12
2019-2020	926620	NETWORK DEFENSE & COUNTERMEASURES	This course introduces students to one of the most important and urgent concepts in protecting computers and networks: intrusion detection. The concepts introduced in this course are intended for students and professionals who need hands-on introductory experience with installing firewalls and intrusion detection systems (IDSs). This course assumes that students are familiar with the Internet and fundamental networking concepts, such as TCP/IP, gateways, routers, and Ethernet. It also assumes that students are familiar with IP troubleshooting; subnetting, subnet masking, IP datagram structure, routing, Web security, and common attack techniques.	10	12
2019-2020	926621	LINUX ADMINISTRATION	This course is designed to teach students how to administer, use, or develop programs for SUSE Linux. The concepts introduced do not assume prior Linux experience and are geared toward the objectives on the CompTIA Linux+ certification exam. Furthermore, many of the concepts and procedures introduced in this course are transferable to most other Linux distributions. This course will introduce students to the concepts required to successfully use and administer a Linux system.	10	12
2019-2020	926801	ORIENTATION TO HOSPITALITY	This course introduces various facets and opportunities within the hospitality profession. The intent is for students to gain a broad base of information relative to the hospitality industry. Emphasis is placed on having students comprehend their role as a hospitality industry professional. Topics include an overview of the hospitality profession, knowledge and skills necessary for successful employment, the impact of the hospitality profession on society, issues that impact on various segments of the hospitality profession, and emerging trends.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926802	CATERING	This course includes the theory and practice of operating a catering business. Topics include food production and management related to catering and other special services. Upon completion, the student will have a working knowledge of the principles involved in operating a catering business.	10	12
2019-2020	926803	BASIC FOOD PREPARATION	In this course students acquire fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. This course is CORE for AAS/AAT or Diploma in Culinary Arts or Commercial Food Services.	10	12
2019-2020	926804	FOUNDATIONS OF NUTRITION	This course focuses on nutrition and meal planning in relation to the food preparation industry. Topics include the science of food and nutrition, essential nutrients and their relation to the growth, maintenance and functioning of the body, nutritional requirements of different age levels and cultural influences on food selection. Upon completion of this course, students will be able to apply the basic principles to meal planning. This is a CORE course	10	12
2019-2020	926805	SANITATION, SAFETY, AND FOOD SERVICE	This course introduces the basic principles of sanitation and safety to food service handling including purchasing, storing, preparation and serving. Specific topics include the dangers of microbial contaminants, food allergens and foodborne illness, safe handling of food, the flow of food, and food safety management systems. At the conclusion of this course students will be prepared to test for ServSafe© certification. The content of this course is foundational for all culinary arts classes. This is a core course.	10	12
2019-2020	926806	TABLE SERVICE	This course is a guide for the modern wait staff. Topics include laying the cover, taking the order, surveying of different styles of table service from the casual to the very formal, tabulating and presenting the bill, and busing and turning the table. Upon completion of this course, students should be able to demonstrate proficiency in the art of table service.	10	12
2019-2020	926807	MEAL MANAGEMENT	This course covers the principles of meal management. Topics include menu planning, food selection, recipe standardization, food preparation, and meal service for all phases of food service. Upon completion of this course, students will be able to apply efficient work habits, sanitation and safety in the kitchen	10	12
2019-2020	926808	ADVANCED FOOD PREPARATION	In this course, students apply food preparation and meal management skills in all areas of food service. Emphasis is placed on management and technical skills needed to operate a restaurant. Upon completion, students will develop advanced skills in food preparation and meal management.	10	12
2019-2020	926809	BASIC FOOD PREPARATION LAB	In this course students apply fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. At the conclusion of this course students will demonstrate basic food preparation skills. This course is CORE for AAS/AAT or Diploma in Culinary Arts or Commercial Food Services.	10	12
2019-2020	926810	FUNDAMENTALS OF QUANTITY COOKING	This course covers the principles and methods of quantity cooking. Topics include weights and measures, costing and converting of recipes, vocabulary and standard abbreviations, health department regulations and inspection, and food production forms and records. Upon completion of this course the student will have a basic knowledge of the principles of quantity food production.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926811	FOOD PREPARATION	In this course students acquire fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. At the conclusion of this course students will demonstrate basic food preparation skills.	10	12
2019-2020	926812	CHOCOLATE AND TRUFFLES	This course is a specialty hands-on course in chocolate, focusing on: tempering, chocolate candy making and the use of chocolate as a centerpiece medium. The student will have competency in chocolate to apply in the industry.	10	12
2019-2020	926813	FOOD PREPARATION AND THE HEALTH CARE INDUSTRY	This course introduces students to food preparation and service in the health care industry. Emphasis will be placed on using medical dictionaries and reading charts for therapeutic diet instruction, and designing and creating menus and diet programs for special client populations. Upon completion, students should be able to read and interpret medical terms, and demonstrate knowledge about food service in the health care industry.	10	12
2019-2020	926814	FOOD PRODUCTION FOR SPECIAL OPERATIONS	This course covers menu planning principles, food preparation, food procurement, and food management skills needed to provide appealing and profitable food service in special operations. Topics include fast food cookery, convenience-store food service, supermarkets, delicatessens, and take-out venue. Upon completion, students should be able to plan, organize, and prepare food service items for special operations.	10	12
2019-2020	926815	SPECIALTY BREADS	The student will have a complete analysis of the different types of flour and types of leavening agents, as well as of the old, original method of making bread with naturally developed yeast present in pieces of previously fermented dough. Also, have a full understanding of the basic process of making bread; water, kneading, fermentation, temperature, and proofing. The student will also explore the art of fantasy breads, appliqués, presentation assemblages, and decorative breads. The student will develop competencies in stockroom, scully and supervision.	10	12
2019-2020	926816	BASIC CULINARY LAB I	In this course, students apply food preparation techniques through hands-on experiences. Emphasis is placed on manipulative skills under direct supervision. Students will develop competencies in food production.	10	12
2019-2020	926817	CAKE DECORATING AND DESIGN	This course focuses on preparing cake, tortes, individual viennese cakes, and piping skills. Emphasis is placed on piping different mediums such as: chocolate, buttercream, royal icing; assembling cakes with different batters or dough such as: genoise, Japonaise, Bavarian, mousse, and marzipan. Upon completion student should be able to plan, execute and evaluate whole cakes, desert platters, and a show piece.	10	12
2019-2020	926818	CULINARY ARTS APPRENTICESHIP	This course provides the student with hands-on experience in a selected (approved) commercial food operation establishment under direct supervision. This course may be repeated for credit.	10	12
2019-2020	926819	CULINARY ART SCULPTURE	This course includes the notion of fantasies that accompany the sculpturing motion with food. Work on centerpieces for all occasions will be included. The student will be exposed to a variety of three-dimensional edible mediums from wedding cakes to salt dough.	10	12
2019-2020	926820	PREPARING AND PROCESSING MEAT	This course focuses on preparing and processing various types of meat including beef, pork, poultry, fish, and seafood for final preparations in the other stations of the kitchens. Upon completion, students will be able to demonstrate principles of meat preparation and processing.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926821	MEAT PREPARATION AND PROCESSING	This course focuses on meat preparation and processing. Students will be responsible for the preparing of meats including beef, pork, poultry, fish, and seafood so they can be used for final preparations in the other stations of the kitchens. Upon completion, students will be able to demonstrate an understanding of the principles in meat preparation and processing.	10	12
2019-2020	926822	AROMATIC AND FLAVORING COMBINATIONS	Students will learn the difference between spices and herbs. Students will further learn the categories of herbs and spices which enable them to create their finest dishes. Students will learn the world renowned spice blends, and dry seasonings rubs. A strong emphasis will be placed on the huge variety of chili peppers.	10	12
2019-2020	926823	STOCKS AND SAUCES	This course challenges the student to the greatest tests of a chef's skills. Whether they are classic or contemporary good sauces demand the highest technical expertise. Students learn why particular sauces will or will not go with particular dishes. The student will focus on brown and white stocks; consommé's, fumets and essences; glazes and roux's. The student will further develop mother sauces and compound sauces.	10	12
2019-2020	926824	FOUNDATIONS OF BAKING	This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to prepare and evaluate baked products.	10	12
2019-2020	926825	INTRO TO GARDE MANGER	This course is designed to develop skills in the art of Garde Manger. Topics include pates, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapes, hor d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate show pieces.	10	12
2019-2020	926826	ADVANCED GARDE MANGER	This course is a continuation of skill development in the art of Garde Manager. Major topics to be covered include preparation of gourmet foods, application of cold food fabrications and display, sausage making, ice carving and carving decorative substances to produce buffets. Upon completion, students should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology.	10	12
2019-2020	926827	ADVANCED BAKING	This course is a continuation of CUA 204. Topics include specialty breads, pastillage, marzipan, chocolate, pulled-sugar, confections, classic desserts, pastries, and cake decorating. Upon completion, students should be able to demonstrate pastry preparation and plating, cake decorating, and show-piece production skills.	10	12
2019-2020	926828	BEVERAGE MANAGEMENT	This is a survey course of basic alcoholic and non-alcoholic beverages as they relate to food service. Topics include wine and food appreciation and laws related to alcohol services. Upon completion, students should be able to determine what beverages compliment various cuisines and particular tastes.	10	12
2019-2020	926829	FOOD PURCHASING AND COST CONTROL	Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and food service ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.	10	12
2019-2020	926830	INTERNATIONAL CUISINE	This course focuses on various cuisines from countries and regions throughout the world. Students will prepare complete menus reflective of the culture and goods of these countries and regions with emphasis on ingredients and authentic preparation methods. Upon completion, students should be able to research and execute international menus.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926831	REGIONAL CUISINES OF THE AMERICAS	This course provides a brief history of the ancient American foods that enhanced the world's cuisines. Emphasis is placed on how these foods influenced the "American Cuisines" of today. Upon completion of this course, students will be able to research and execute regional American cuisines.	10	12
2019-2020	926832	PLATED DESSERT DESIGN	This course focuses on plated dessert designs. Emphasis will be placed on complex presentations with two or more main items using decorative garnishes. Upon completion, students should be able to plate and serve attractive presentations of desserts with appropriate sauces and garnishes.	10	12
2019-2020	926833	INTRODUCTION TO PASTRIES	This course focuses on preparing cakes and tortes. Emphasis is on the techniques necessary for Bavarian creams, ganache, buttercream, whipped cream, marzipan, chocolate, and production of mignardises and petit fours. Upon completion, students should be able to plan, execute and evaluate dessert platters, individual plated desserts, and show pieces.	10	12
2019-2020	926834	INTRODUCTION TO PATISSERIE	This is an introductory course to patisserie. Emphasis is placed on individual desserts, blown sugars, pulled sugar, pastillage gum paste, nougat. Upon completion, students should be able to plan, execute, and evaluate dessert platters, individual plated desserts, and show pieces.	10	12
2019-2020	926835	BASIC CULINARY LAB II	This course provides students the opportunity to have hands-on experience with direct supervision. Emphasis will be placed on techniques, production, presentation, safety and sanitation. Upon completion, students should be able to demonstrate skills in food preparation.	10	12
2019-2020	926836	MENU DESIGN	This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, students should be able to write, lay out, and produce effective menus for a variety of hospitality settings.	10	12
2019-2020	926837	FIELD EXPERIENCE - PASTRY	A minimum of 200 hours of supervised practical experience in an approved food service system assigned by the Coordinator. Students are supervised jointly by director on the job and by the college instructor. Students gain practical experience in food services. This course may be repeated credit.	10	12
2019-2020	926838	FIELD EXPERIENCE - SAVORY	A minimum of 200 hours of supervised practical experience in an approved food service system assigned by the Coordinator. Students are supervised jointly by director on the job and by the college instructor. Students gain practical experience in food services. This course may be repeated credit.	10	12
2019-2020	926839	INTERNSHIP FOR CULINARY APPRENTICE	This course is designed to give students practical, on-the-job experiences in all phases of food service operations under the supervision of a qualified chef and coordinated with the college instructor. This course may be repeated for credit.	10	12
2019-2020	926840	CULINARY APPRENTICESHIP PRACTICUM	In this course the student will complete the final practical exam required by the American culinary federation to complete a formal chef apprenticeship. This course must be taken during the last semester of apprenticeship	10	12
2019-2020	926841	RESTAURANT MANAGEMENT AND SUPERVISION	This course introduces restaurant and food service information systems. Topics include planning, cost controls, forecasting, inventory control, recipe control, production control, and nutritional analysis. Upon completion, students should be able to demonstrate competence in utilizing contemporary information application systems in a restaurant setting.	10	12
2019-2020	926842	MANAGEMENT OF FOOD AND BEVERAGE SERVICE	This course covers the practical skills and knowledge for effective food and beverage service in a variety of settings. Topics include reservations, greeting and service of guests, styles of service, handling complaints and sales and merchandising. Upon completion, students should be able to demonstrate competence in human relations and technical skills required in the service of foods and beverages.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	926843	MODERN COOKING TECHNIQUES	This course will explore techniques used in the modern kitchen, including Sous Vide cooking and Molecular Gastronomy, as well as associated equipment. The class will focus on “small plates” and modern plating design. At the end of the course students will be able to prepare a variety of dishes using the techniques and equipment they learned about in the class and to present them based on the plating design guidelines discussed.	10	12
2019-2020	926844	APPRENTICESHIP: QUALIFYING DINNER	In this course, students will demonstrate chef's skills developed during culinary training by practical examination through preparing a gourmet meal for a panel of chef judges.	10	12
2019-2020	927001	INTRODUCTION TO COMPUTER AIDED DRAGTING	This course provides an introduction to basic Computer Aided Drafting and Design (CADD) functions and techniques, using “hands-on” applications. Topics include terminology, hardware, basic CADD and operating system functions, file manipulation, and basic CADD software applications in producing softcopy and hardcopy.	10	12
2019-2020	927002	FUNDAMENTALS OF DRAFTING AND DESIGN TECHNOLOGY	This course serves as an introduction to the field of drafting and design and provides a foundation for the entire curriculum. Topics include safety, lettering, tools and equipment, geometric constructions, and orthographic sketching, and drawing. This is a CORE course.	10	12
2019-2020	927003	BLUEPRINT READING	This course provides students with basic blueprint reading skills for various applications. Topics include terms, definitions and abbreviations, orthographic projection, dimensions and tolerances, lines and symbols, industrial application, scales, multiview projections, specifications, notes, elevations, sections, details, and schedules. Upon completion, students should be able to interpret blueprint drawings in various formats.	10	12
2019-2020	927004	INDUSTRIAL BLUEPRINT READING	This course provides students with basic blueprint reading for various industrial applications. Topics include orthographic projection, dimensions and tolerances, symbols, industrial application, scales and notes. This course may be tailored to meet a specific industry need.	10	12
2019-2020	927005	BLUEPRINT READING FOR MACHINISTS	This course provides the students with terms and definitions, theory of orthographic projection, and other information required to interpret drawings used in the machine trades. Topics include multiview projection, pictorial drawings, dimensions and notes, lines and symbols, and sketching. Upon completion, students should be able to interpret blueprint drawings used in the machine trades.	10	12
2019-2020	927006	BLUEPRINT READING FOR CONSTRUCTION	This course provides the students with terms and definitions, theory of orthographic projection, and other information required to interpret drawings used in the construction trades. Topics include multiview projection, dimensions and notes, lines and symbols, sketching, foundations plans, site plans, floor plans, elevations, sections, details, schedules, electrical plans and specifications. Upon completion, students should be able to interpret blueprint drawings used in the construction trades.	10	12
2019-2020	927007	MANUFACTURING PROCESSES	This course in materials and processes includes the principles and methodology of material selection, application, and manufacturing processes. Emphasis is directed to solids to include material characteristics, castings, forging, and die assemblies. Upon completion, students should be able to discuss and understand the significance of materials' properties, structure, basic manufacturing processes, and express and interpret material specifications.	10	12
2019-2020	927008	BASIC ELECTRICAL DRAFTING	This course covers the universal language of electrical drafting, including electrical lines, symbols, abbreviations, and notation. Emphasis is place on typical components such as generators, controls, transmission networks, and lighting, heating, and cooling devices. Upon completion, students should be able to draw basic diagrams of electrical and electronic circuits using universally accepted lines and symbols.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927009	BASIC TECHNICAL DRAWING	This course covers sections, auxiliary views, and basic space geometry. Emphasis will be placed on the theory as well as the mechanics of applying sections, basic dimensioning, auxiliary views, and basic space geometry. This is a CORE course.	10	12
2019-2020	927010	SURFACE DEVELOPMENT	This course covers surface intersections and developments. Emphasis is placed on the basic types of intersections using simple geometric forms. Upon completion, students should be able to draw common types of surface intersection and handle them simply as applications of the concepts learned in this class.	10	12
2019-2020	927011	INTERMEDIATE COMPUTER AIDED DRAFTING AND DESIGN	This course covers intermediate-level concepts and applications of CADD. Emphasis will be placed on intermediate-level features, commands, and applications of CADD software. This is a CORE course	10	12
2019-2020	927012	INTERMEDIATE TECHNICAL DRAWING	This course is designed to develop a strong foundation in common drafting and design practices and procedures. Topics include multi-view working drawings with advanced dimensioning, basic tolerancing and pictorial drawings. This is a CORE course.	10	12
2019-2020	927013	FUNDAMENTALS OF DRAFTING FOR RELATED TRADES	This course covers the theory for an overview of related trades drafting. Topics include civil, piping, electronic and welding drawings. Upon completion, students should be able to identify the basic information used to produce drawings related to these fields.	10	12
2019-2020	927014	MACHINE DRAFTING BASICS	This course in machine drafting and design provides instruction in the largest specialty area of drafting in the United States, in terms of scope and job opportunities. Emphasis will be placed on the applications of multi-view drawings, including drawing organization and content, title blocks and parts lists, assembly drawings, detail drawings, dimensioning and application of engineering controls in producing industrial-type working drawings. Upon completion, students should be able to organize, layout, and produce industrial-type working drawings, including the application of title blocks, parts lists, assemblies, details, dimensions, and engineering controls.	10	12
2019-2020	927015	ARCHITECTURAL DRAFTING	This course in architectural design and drafting introduces basic terminology, concepts and principles of architectural design and drawing. Topics include design considerations, lettering, terminology; site plans, and construction drawings. Upon completion, students should be able to draw, dimension, and specify basic residential architectural construction drawings.	10	12
2019-2020	927016	BASIC SURVEYING	This course covers the use of surveying instruments, mathematical calculations and the theory of land surveying. Topics include USGS benchmarks, measuring horizontal and vertical angles and distances, terms, and recording and interpreting field notes. Upon completion, students should be able to recognize benchmarks and measure, specify, and record field notes.	10	12
2019-2020	927017	DESCRIPTIVE GEOMETRY	This course is designed to teach the fundamental concepts of descriptive geometry with an emphasis on logical reasoning, visualization, and practical applications. Topics include orthographic projection, points and lines in space, auxiliary views, plan representation, intersecting, non-intersecting lines, piercing and intersecting planes, plane development and calculations. Upon completion students should be able to project and intersect points, lines, and planes with their relationships in space.	10	12
2019-2020	927018	FUNDAMENTALS OF DRAFTING FOR RELATED TRADES LAB	This course is an applications lab for the theory of related trades drafting. Topics include civil, piping, electronic and welding drawings. Upon completion, students should be able to produce drawings to convey basic information related to these fields	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927019	BASIC 3D MODELING	This course is an introduction to 3D solid modeling techniques utilizing feature-based, constraint-based parametric design. This course encourages the student to visualize parts in the 3D world and have a “design intent” plan for each part in which they will design. Upon completion of the course students should be able to create basic 3D models and 2D working drawings.	10	12
2019-2020	927020	THEORY OF RESIDENTIAL DRAWING AND DESIGN	This course provides the theory of residential drawing and design. Topics include architectural styles, house design, site and space planning, environment, drawing requirements, construction materials and process, terminology, and specific types of drawings required to complete a full set of construction documents. Introductory and intermediate level topics are covered. Emphasis is placed on an understanding of the various issues and requirements essential to the field of residential drawing and design.	10	12
2019-2020	927021	DRAWING FOR RESIDENTIAL CONSTRUCTION	This course is an applications lab for the theory of residential drawing and design. Topics include house design, site and space planning, construction materials and process, terminology, and specific types of drawings required to complete a set of construction documents. Introductory and intermediate level topics are covered. Upon completion, students should be able to produce drawings to convey the various issues and requirements essential to the field of residential drawing and design.	10	12
2019-2020	927022	DRAFTING INTERNSHIP	This course is designed for those who are involved in a structured employment situation that is directly related to the field of drafting and design and is coordinated with the drafting instructor. The student must spend as least 5 hours per week in an activity planned and coordinated jointly by the instructor and the employer. Upon completion, the student will have gained valuable work experience in a well-planned, coordinated training/work situation.	10	12
2019-2020	927023	DRAFTING INTERNSHIP	This course is limited to those who are involved in a structured employment situation that is directly related to the field of drafting and design and is coordinated with the drafting instructor. The student must spend at least 10 hours per week in an activity planned and coordinated jointly by the instructor and the employer. Upon completion, the student will have gained valuable work experience in a well-planned, coordinated training/work situation.	10	12
2019-2020	927024	DRAFTING INTERNSHIP	This course is limited to those who are involved in a structured employment situation that is directly related to the field of drafting and design and is coordinated with the drafting instructor. The student must spend at least 15 hours per week in an activity planned and coordinated jointly by the instructor and the employer. Upon completion, the student will have gained valuable work experience in a well-planned, coordinated training/work situation.	10	12
2019-2020	927025	INTERMEDIATE MACHINE DRAFTING	This second course in machine drafting and design provides more advanced instruction in the largest specialty area of drafting. Topics include applications of previously developed skills in the organization and development of more complex working drawings, use of vendor catalogs and the Machinery's Handbook for developing specifications, and use of standardized abbreviations in working drawings.	10	12
2019-2020	927026	INTERMEDIATE ARCHITECTURAL DRAFTING	This second course in architectural design and drafting continues with more advanced and detailed architectural plans. Topics include interior elevations, plot plans, and interior details. Upon completion, students should be able to draw and specify advanced level plans including various architectural details.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927027	CIVIL DRAFTING, PLAT MAPS	This course introduces the drafting practices, symbols, conventions, and standards utilized in civil engineering contract documents. Topics include site planning, land surveying, topographic surveys, along with civil terminology. Upon completion, students should be able to draw accurate plat maps giving legal descriptions of land parcels, draw simple site plans, and identify and use proper symbols and conventions on civil engineering drawings.	10	12
2019-2020	927028	PIPE DRAFTING	This course covers the theory and practical application needed to understand piping fundamentals as used in refineries and petrochemical plants. Topics include process and mechanical flow diagrams, plant equipment, isometric drawings, instrumentation symbols, pipe symbols, flanges, fittings, and applications of basic math and trigonometry. Upon completion, students should be able to demonstrate pipe drafting techniques and fundamentals in order to prepare working drawings used in refineries and the petrochemical industrial environment.	10	12
2019-2020	927029	GEOMETRIC DIMENSIONING & TOLERANCING	This course is designed to teach fundamental concepts of size description by geometric methods including appropriate engineering controls. Emphasis is placed on the drawing and application of common geometric dimensioning and tolerancing symbols to engineering drawings as designated by the latest ANSI/ASME Standards. Upon completion, students should be able to use geometric dimensioning and tolerancing symbols in applying size information and manufacturing controls to working drawings.	10	12
2019-2020	927030	DESIGN OF STRUCTURAL WOOD MEMBERS	This course provides structural theory and rule-of-thumb design for structural wood members. Joists, beams, girders, rafters, posts, and columns are designed as related to residential and light commercial needs. Bending moment, shear, and slenderness ratios are discussed as well as code requirements and rule-of-thumb. Emphasis is placed upon competency.	10	12
2019-2020	927031	BUILDING CODES, ORDINANCES, ZONING RESTRICTIONS AND THE A.D.A.	This course provides an in-depth study of building codes, municipal ordinances, zoning restrictions, and compliance with the Americans With Disability act as related to commercial drafting and design. Emphasis is placed upon working understanding of these topics.	10	12
2019-2020	927032	ADVANCED TECHNICAL DRAWING	This course covers the methods of providing size description and manufacturing information for production drawings. Emphasis will be placed on accepted dimensioning and tolerancing practices including Geometric Dimensioning and Tolerancing for both the Customary English System and the ISO System. Upon completion, students should be able to apply dimensions, tolerances, and notes to drawings to acceptable standards, including Geometric Dimensioning and Tolerancing, and produce drawings using and specifying common threads and various fasteners, including welding methods.	10	12
2019-2020	927033	ADVANCED ARCHITECTURAL DRAFTING	This third course in architectural design and drafting continues with advanced architectural plans, including a slant toward light commercial construction. Topics include climate control plans, application of building codes, building materials and finish specifications, cost estimating, and bid specifications. Upon completion, students should be able to apply current techniques in producing advanced-level architectural plans, including residential and light commercial applications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927034	STRUCTURAL CONCRETE DRAFTING	This course is designed to develop the knowledge and skills necessary to understand the basic components and terminology of pre-cast and poured-in-place concrete structures. Emphasis is placed on pre-cast concrete framing plans, sections, fabrication and connection details, poured-in-place concrete foundations, floor systems, and bills of material. Upon completion, students should be able to construction engineering and shop drawings of concrete beams, column, floor, rood, and wall framing plans using the A.I.S.C. Manual and incorporating safety practices.	10	12
2019-2020	927035	STRUCTURAL STEEL DRAFTING	This course covers the theory and practical applications necessary to understand the basic design and terminology of structural steel components used in light commercial buildings. Emphasis is placed on structural steel drafting techniques, bolted and welded connections, framing plans, sections, fabrication and connection details, and bills of material. Upon completion, students should be able to produce engineering and shop drawings incorporating standard shapes, sizes, and details using the A.I.S.C. Manual and incorporating safety practices.	10	12
2019-2020	927036	TECHNICAL ILLUSTRATION	This course provides the student with various methods of illustrating structures and machine parts. Topics include axonometric drawings; exploded assembly drawings; one point, two point, and three point perspectives, surface textures, and renderings. Upon completion, students should be able to produce drawings and illustrations using the previously described methods.	10	12
2019-2020	927037	STRENGTH OF MATERIALS	This course in statics and strength of materials includes the study of forces and how they act and react on bodies and structures. Topics include the effects of forces as found in structures and machines under conditions of equilibrium, how materials resist forces, strengths of common construction materials and structural components. Force systems such as parallel, concurrent, and non-concurrent are studied in co-planar and non-coplanar situations are included. Upon completion, students should understand and be able apply the principles of force in engineering drawings.	10	12
2019-2020	927038	GEOGRAPHIC INFORMATION SYSTEMS	This course is designed as an introduction to the world of G.I.S. and what it's about and builds on the skills attained in Civil Drafting I and II. Emphasis will be placed on utilizing G.I.S. software in conjunction with a CAD program to produce "intelligent" maps tied to a database in solving complex projects and problems. Upon completion, students should be able to manipulate attributed objects drawn on CAD/GIS software and accurately produce basic G.I.S. drawings.	10	12
2019-2020	927039	ADVANCED CAD	This course allows the student to plan, execute, and present results of individual projects in Advanced CAD topics. Emphasis is placed on enhancing skill attainment in Advanced CAD skill sets. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.	10	12
2019-2020	927040	CAD CUSTOMIZATION	This course introduces the various methods of customizing CAD software to meet individual or company needs. Topics include menu customizing, programming, custom command macros, script files, slides, and slide libraries. Upon completion, students should be able to customize and write menus, write programming routines, and write script files for the purpose of increasing the efficiency of the CAD operator.	10	12
2019-2020	927041	INTERMEDIATE 3D MODELING	This course emphasizes the more advanced techniques in 3D solid modeling. It covers advanced features of part creation, part editing, and analysis. Some techniques that will be discussed are: lofting, sweeping, sheet metal part creation, interference checking and stress analysis. Upon completion of the course students should be able to create advanced 3D models and perform stress analysis/interference checking.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927042	3D GRAPHICS AND ANIMATION	This course is design to challenge the imagination of the student in a 3-dimensional problem solving environment. The student will be given a basic introduction to the concepts of 3D design and animation, then apply those concepts to a design project. Upon completion, students should be able to create and animate objects in a 3-dimensional environment.	10	12
2019-2020	927043	SPECIALIZED CAD	This course allows the student to plan, execute, and present results of individual projects in Specialized CAD topics. Emphasis is placed on enhancing skill attainment in Specialized CAD skill sets. The student will be able to demonstrate and apply competencies identified by the instructor.	10	12
2019-2020	927044	DESIGN PROJECT	This course allows the student to plan, execute, and present results of an individual design project. Emphasis is placed on attainment of skills related to a project agreed upon by the Instructor and student. The student will be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.	10	12
2019-2020	927045	INDEPENDENT STUDIES	This course provides practical application of prior attained skills and experiences as selected by the instructor for the individual student. Emphasis is placed on applying knowledge from prior courses toward the solution of individual drafting and design problems. With completion of this course, the student will demonstrate the application of previously attained skills and knowledge in the solution of typical drafting applications and problems.	10	12
2019-2020	927046	INDEPENDENT STUDIES	This course provides practical application of prior attained skills and experiences as selected by the instructor for the individual student. Emphasis is placed on applying knowledge from prior courses toward the solution of individual drafting and design problems. With completion of this course, the student will demonstrate the application of previously attained skills and knowledge in the solution of typical drafting applications and problems.	10	12
2019-2020	927047	ADVANCED 3D MODELING	This course is designed to challenge the imagination of the student in a three dimensional problem-solving environment using solids modeling software. The student will develop to scale computer generated parts in the 3D computer environment. They will apply modeling concepts as Constraints, Photorealistic rendering, motion activated views, introduction to 3D part libraries, add-in software components, plastic model technology and simulations. They will be introduced to the concepts of 3D design and animation, then apply those concepts to a design project. Upon completion, a student should be able to create parts in 3D models, produce working drawings and understand basic simulations. Students will also print files to “.stl” format and create parts on a Direct Digital Manufacturing system or prototype.	10	12
2019-2020	927048	BUILDING INFORMATION MODELING (BIM)	This course provides the theory of commercial drawing and design with a purpose to introduce the student to Building information Modeling (BIM). The course will provide the student with a well-rounded knowledge of the tools and techniques used to integrate various component models into a computer generated model and perform collision detection. Emphasis will be placed on using BIM to manage schedules and budgets for construction projects. Topics also include legal issues, job expectations, the architect and the architectural office, the contractor and the office of the contractor, building officials, construction materials and process, fire resistance design, C.S.I. format, and contract documents. Emphasis is placed upon a thorough understanding of these topics.	10	12
2019-2020	927049	DRAWING FOR COMMERCIAL CONSTRUCTION	This course is a direct applications lab to the topics covered within DDT 250. Emphasis is placed upon the production of quality construction document.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927050	PORTFOLIO	This course includes the preparation of technical and or architectural drawings for a portfolio presentation and a resume for portfolio presentation. Hard copy drawings as well as electronic will be discussed, finalized and developed for presentation. Upon completion, students should be able to prepare and produce a portfolio for presentation. This course includes the preparation of artwork and a resume for portfolio presentation. Topics include production of a resume and portfolio for presentation during the last semester of course work. Upon completion, students should be able to prepare and produce a resume and portfolio for presentation in both hard copy as well as electronic copy.	10	12
2019-2020	927051	DRAFTING INTERNSHIP	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	927052	DRAFTING INTERNSHIP	This course allows the student to alternate semesters of full-time work in a job closely related to the student's major with semesters of full-time school. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	927053	DRAFTING INTERNSHIP	This course allows credit for substantial on-the-job experience within the field of Drafting and Design Technology.	10	12
2019-2020	927054	SURVEY OF AEROSPACE TECHNOLOGY`	This course provides a survey of Aerospace technology including the history of spaceflight, propulsion, orbital mechanics, and the space environment. A discussion of unmanned spacecraft, and the manned space program is also included, as well as, debate about the future, with solid facts and some speculation about humankind's ventures in the final frontier.	10	12
2019-2020	927201	BASIC ENGINES	This course is designed to give the student knowledge of the diesel engine components and auxiliary systems, the proper way to maintain them, and the proper procedures for testing and rebuilding components. Emphasis is placed on safety, theory of operation, inspection, and measuring and rebuilding diesel engines according to factory specifications. Upon completion students should be able to measure, diagnose problems, and repair diesel engines.	10	12
2019-2020	927202	PREVENTIVE MAINTENANCE	This course provides instruction on how to plan, develop and install equipment surveillance and reliability strategies. Descriptions of various maintenance techniques for specialized preventive programs are discussed and computerized parts and equipment inventories and fleet management systems software are emphasized. Upon completion, students should be able to set up and follow a preventive maintenance schedule as directed by manufacturers.	10	12
2019-2020	927203	DOT VEHICLE INSPECTION	This course introduces the student to the Department of Transportation Vehicle Inspection procedures. Emphasis is placed on inspecting class 8 truck tractors and trailers. Upon completion, students should be able to perform the Federal Vehicle Inspection on class 8 truck tractors and trailers.	10	12
2019-2020	927204	DIESEL POWERED AUXILIARY EQUIPMENT	This course provides instruction in diesel powered auxiliary equipment. Topics covered include the application of diesel engines to generators, pumps, refrigeration, drilling, boring machines, and marine power units. Upon completion, students should be able to test, troubleshoot, diagnose, and repair diesel powered auxiliary equipment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927205	EQUIPMENT SAFETY / MECHANICAL FUNDAMENTALS	This course provides instruction in the fundamentals of vehicle operation and safety when basic service work is to be performed in the shop. Topics include service manuals, mechanical fundamentals, preventive maintenance and component adjustment. Upon completion, students should be able to demonstrate knowledge of the fundamentals of vehicle operation and safety in the shop.	10	12
2019-2020	927206	FLUID POWER COMPONENTS	This course is designed to provide the fundamental knowledge of hydraulic and pneumatic components currently in use on mobile as well as stationary equipment. Instruction is provided in the identification and repair of various pumps, motor, valves, heat exchanger and cylinders. Upon completion, students should be able to diagnose, service, and repair hydraulic and pneumatic components.	10	12
2019-2020	927207	TRACK VEHICLE DRIVE TRAINS	This course provides instruction in track vehicles and drive trans. Emphasis is placed on track frame roller, rail, steering clutch, axle, and driveline building and repair. Upon completion, students should be able to identify, research specifications, repair, and adjust drive train components.	10	12
2019-2020	927208	DIESEL & GAS TUNE-UP	This course introduces tune-up and troubleshooting according to manufacturers' specifications. Topics include troubleshooting engine systems, tune-up procedures, and use and care of special test tools and equipment. Upon completion, students should be able to troubleshoot, diagnose, and repair engines and components using appropriate diagnostic equipment.	10	12
2019-2020	927209	INDUSTRIAL AND AGRICULTURAL EQUIPMENT	This course provides instruction in the fundamentals of agricultural and industrial tractor repair, maintenance, and basic service procedures. Emphasis is placed on operating and troubleshooting, agricultural and industrial equipment. Upon completion, students should be able to diagnose, adjust, and repair industrial and agricultural equipment.	10	12
2019-2020	927210	BEARINGS AND LUBRICANTS	This course focuses on roller, ball and shell bearing design and application. Topics include vehicle and industrial bearings and lubrication requirements. Upon course completion, students should diagnose related problems and service and replace bearings.	10	12
2019-2020	927211	MEDIUM AND HEAVY VEHICLE CAB SYSTEMS	This course provides instruction in the diagnosis and repair of medium and heavy vehicle cab and cargo systems. Topics include hydraulics, HVAC and other systems of control. Upon completion, students should be able to identify, repair, and adjust medium and heavy cab and cargo systems.	10	12
2019-2020	927212	HEAVY VEHICLE BRAKES	This course covers the theory and repair of braking systems used in medium and heavy duty vehicles. Topics include hydraulic, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust and repair braking systems on medium and heavy vehicles. CORE	10	12
2019-2020	927213	PNEUMATICS AND HYDRAULICS	This course provides instruction in the identification and repair of components found in hydraulic and pneumatic systems. Topics include schematics and symbols used in fluid power transmission and the troubleshooting of components in these systems. Upon completion, students should be able to diagnose, adjust, and repair hydraulic and pneumatic system components.	10	12
2019-2020	927214	ELECTRONIC ENGINE SYSTEMS	This course introduces the principles of electronically controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturers' specifications. Upon completion, students should be able to diagnose, test, and calibrate electronically controlled diesel engines.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927215	HEAVY VEHICLE DRIVE TRAINS	This course introduces operational principles of mechanical medium and heavy duty vehicle transmissions. Topics include multiple counter shafts power takeoffs, slider idler clutches, friction clutches, mechanical transmission power components, and hydraulics. Upon completion, students should be able to diagnose, inspect and repair mechanical transmissions. CORE	10	12
2019-2020	927216	ADVANCED ENGINES	This course provides instruction in the disassembly, inspection, and rebuilding of diesel and heavy-duty gas engines. Emphasis is placed on the manufacturer's standards and factory recommended service tools and equipment. Upon completion, students should be able to disassemble, inspect, and rebuild engines according to the manufacturer's specifications.	10	12
2019-2020	927217	FUEL SYSTEMS	This course is designed to provide practice in troubleshooting, fault code diagnosis, information retrieval, calibration, repair and replacement of fuel injectors, nozzles, and pumps. Emphasis is placed on test equipment, component functions, and theory. Upon completion, students should be able to diagnose, service, and repair fuel systems and governors.	10	12
2019-2020	927218	HEAVY VEHICLE DRIVE TRAIN LAB	This lab provides reinforcement of material covered in DEM 116 or DEM 125. The students will apply the knowledge they learned on driveshafts, power take-offs, standard transmissions, fluid drives, torque converters, clutch assemblies, drive axles, and special drives through experiential learning techniques. Upon completion, students should be able to diagnose, inspect, remove, repair or replace, and install heavy vehicle drive train components.	10	12
2019-2020	927219	DIESEL ENGINE LAB	This lab allows the student to refine the skills required to repair diesel engines.	10	12
2019-2020	927220	ELECTRICAL / ELECTRONIC FUNDAMENTALS	This course introduces the student to basic Electrical / Electronic concepts and fundamentals. It provides the principles of electricity, magnetism, and Ohm's Law. Emphasis is placed on batteries, starting, charging, and lighting circuits, which include series, parallel, and series-parallel circuits. Troubleshooting and repair of wiring harnesses, starting motors, charging systems, and accessories are included along with the computerized monitoring of vehicle systems. Upon completion, students should be able to identify components, test systems, and repair minor electrical problems according to manufacturer's literature. CORE	10	12
2019-2020	927221	ELECTRICAL / ELECTRONIC FUNDAMENTALS II	This course is a continuation of the Electrical/Electronic Fundamentals course providing advanced instruction on the principles of electricity, magnetism and Ohm's Law. Batteries, starting, charging, and lighting circuits including series, parallel, and series-parallel circuits are covered in-depth. Advanced instruction is provided on the troubleshooting and repair of wiring harnesses, starting motors, charging systems, and accessories.	10	12
2019-2020	927222	BASIC REPAIR WELDING FOR DIESEL MECHANICS	This course is a study of the principles and procedures of the basic welding processes commonly used for diesel and heavy equipment repair. It includes safety procedures and the various types of welding and cutting apparatus and procedures used for diesel and heavy equipment repair. Upon completion, students will be able to safely demonstrate the use of welding and cutting equipment and applications.	10	12
2019-2020	927223	GAS ENGINE LAB	This course allows the student to develop the skills required to repair industrial gas engines.	10	12
2019-2020	927224	COMPUTER CONTROLLED ENGINE AND POWER TRAIN SYSTEMS	This course introduces the student to the fundamentals of operation of computer controlled engine and power train systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927225	HEAVY VEHICLE STEERING AND SUSPENSION SYSTEMS	This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components, and perform front and rear wheel alignments on medium and heavy duty vehicles.	10	12
2019-2020	927226	HEATING, AIR CONDITIONING, AND REFRIGERATION SYSTEMS	This course provides instruction in fundamentals, diagnosis, and repair of cab and cargo heating and refrigeration systems. Topics include operation theory, safety, maintenance, recycling and recovery procedures, recharging procedures, troubleshooting procedures, refrigerant leaks, and system repairs.	10	12
2019-2020	927227	ELECTRICAL SCHEMATICS AND SYMBOLS	This course introduces the student to electrical symbols and schematics. It prepares the student to utilize wiring diagrams and schematics to troubleshoot electrical problems. Upon completion students should be able to understand electrical circuits by reading wiring diagrams.	10	12
2019-2020	927228	ENGINE FUNDAMENTALS	This course introduces students to procedures and components of spark ignition engines.	10	12
2019-2020	927229	FUEL AND IGNITION SYSTEMS	This course introduces the student to the operating principles and concepts related to fuel and ignition systems.	10	12
2019-2020	927230	VEHICLE MAINTENANCE & SAFE OPERATING PRACTICES	This course provides instruction in basic entry level driving skills relating to the maintenance and safe operation of a commercial motor vehicle. Topics include preventive maintenance and safe vehicle operations. Upon successful completion, students will have the skill and knowledge to safely operate a commercial motor vehicle.	10	12
2019-2020	927231	PREVENTIVE MAINTENANCE II	This course is a continuation of the Preventive Maintenance course providing advanced instruction on planning, developing and installing equipment for surveillance and reliability strategies. Advanced instruction is provided on various maintenance techniques for specialized preventive programs and computerized parts as well as equipment inventories and fleet management systems software.	10	12
2019-2020	927232	CDL LICENSE TEST PREPARATION	This is a course designed to prepare students for the Alabama Commercial Driver's License written examination. The course includes a review of major topics, sample tests, as well as basic CDL information and test-taking procedures.	10	12
2019-2020	927233	PNEUMATICS AND HYDRAULICS II	This course provides instruction in the identification and repair of components found in hydraulic systems. Topics include schematics, circuits, and symbols used in fluid power transmission and the troubleshooting of components in these systems. Upon completion, students should be able to diagnose, adjust, and repair hydraulic system components. Upon completion, students should be able to diagnose, adjust, and repair hydraulic system components.	10	12
2019-2020	927234	HEAVY VEHICLE DRIVE TRAINS II	This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-offs, slider idler clutches, and friction clutches, mechanical transmission power components, and hydraulics. Upon completion, students should be able to diagnose, inspect, and repair mechanical transmissions.	10	12
2019-2020	927235	HEAVY VEHICLE AIR BRAKES	This course covers the theory and repair of air braking systems used in medium and heavy duty vehicles. Topics include air, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust, and repair air braking systems on medium and heavy duty vehicles	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927236	INDUSTRIAL SAFETY	This course provides specialized instruction on the safety issues and requirements of the Occupational Safety and Health Administration (OSHA) as related to the diesel mechanics industry. Emphasis is placed on identifying and correcting potential safety issues relating to OSHA requirements as well as the accompanying administration of the requirements.	10	12
2019-2020	927237	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	927238	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	927239	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	927240	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	927401	INTRODUCTORY COMPUTER SKILLS I	This course places emphasis on the usage of personal computers and software applications for personal and workplace use. Topics include impact of computers in business and industry, word processing, spreadsheets, ethical issues, database, and related concepts. Upon completion, the student will be able to demonstrate computer skills as applied to occupational-related fields. NDC	10	12
2019-2020	927402	INTRODUCTORY COMPUTER SKILL II	This course is designed to focus on the development of computer skills suited to the needs of students in non-degree occupational programs. The course will generally use software packages appropriate to occupational programs and may include such topics as word processing, database, basic graphics, spreadsheets or other features typically needed in the field. Upon completion, the student will be able to demonstrate proficiency by the completion of appropriate assignments and occupation-specific applications.	10	12
2019-2020	927403	INTRODUCTION TO COMPUTE LOGIC AND PROGRAMMING	This course includes logic, design and problem solving techniques used by programmers and analysts in addressing and solving common programming and computing problems. The most commonly used techniques of flowcharts, structure charts, and pseudocode will be covered and students will be expected to apply the techniques to designated situations and problems. This is a CORE course	10	12
2019-2020	927404	PRESENTATIONS GRAPHICS SOFTWARE APPLICATIONS	This course provides students with hands-on experience using presentation graphics software. Students will develop skills common to most presentation graphics software by developing a wide variety of presentations. Emphasis is on planning, developing, and editing functions associated with presentations.	10	12
2019-2020	927405	DATABASE MANAGEMENT SOFTWARE APPLICATIONS	This course provides students with hands-on experience using database management software. Students will develop skills common to most database management software by developing a wide variety of databases. Emphasis is on planning, developing, and editing functions associated with database management.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927406	MICROCOMPUTER APPLICATIONS	This course is an introduction to the most common microcomputer software applications. These software packages should include typical features of applications, such as word processing, spreadsheets, database management, and presentation software. Upon completion, students will be able to utilize selected features of these packages. This course will help prepare students for the MOS and IC3 certification. This is a CORE course.	10	12
2019-2020	927407	INTRODUCTION TO COMPUTERS	This course is an introduction to computers and their impact on society. The course covers the development of computers, their impact on society, as well as future implications of development of computer and related communication technologies. This course introduces programming and computer operating systems. Upon completion, students will have basic knowledge of computer technology and will be able to perform basic functions with a computer system. The course will help prepare students for the IC3 certification.	10	12
2019-2020	927408	NETWORKING BASICS	This course is designed to provide students with classroom and laboratory experiences in current and emerging networking technology. Instruction includes, but is not limited to, safety, networking, networking terminology and protocols, network standards. LANs, WANs, OSI models, cabling, cabling tools, routers, router programming, star topology, and IP addressing. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools, and equipment and all local, state, and federal safety, building, and environmental codes and regulations.	10	12
2019-2020	927409	CISCO I	This course is the first part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on the physical part of networking including basic electronics, computer basics, network basics, addressing, number conversions, cabling, and planning. After completing this course the student will be able to: identify the functions of each layer of the OSI reference model; describe data link and network addresses; define and describe the function of the MAC address; explain the five conversion steps of data encapsulation; describe the different classes of IP addresses and subnetting; identify the functions of the TCP/IP network-layer protocols.	10	12
2019-2020	927410	CISCO II	This course is the second part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on router configuration. After completing this course the student will be able to: prepare the initial configuration of a router and enable IP; control router passwords and identification; configure IP addresses; add the RIP and IGRP routing protocols to a configuration.	10	12
2019-2020	927411	CISCO III	This course is the third part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on LAN design, routing, switching, and network administration. After completing this course the student will be able to: describe LAN segmentation using bridges, routers, and switches; distinguish between cut-through and store and forward LAN switching; describe the operation of the Spanning Tree Protocol and its benefits; describe the benefits of virtual LANs.	10	12
2019-2020	927412	CISCO IV	This course is the fourth part of a four part curriculum leading to CISCO Certified Network Associate (CCNA) certification. This course concentrates on WANs and WAN design. After completing this course the student will be able to: differentiate between LAPB, Frame Relay, ISDN, HDLC, PPP, and DDR; list commands to configure Frame Relay LMIs, maps, and subinterfaces; identify PPP operations to encapsulate WAN data on CISCO routers; identify ISDN protocols, function groups, reference points, and channels; describe CISCO's implementation of ISDN BRI.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927413	FUNDAMENTALS OF UNIX/LINUX I	This course presents fundamental applications in Unix/Linux. Included in this course are skills development for OS installation and setup, recompile techniques, system configuration settings, file/folder structures and types, run levels, basic network applications, and scripting. Additionally, the course presents security features from an administrative and user consideration.	10	12
2019-2020	927414	FUNDAMENTALS OF UNIX/LINUX II	This course is a continuation of DPT171 and includes advanced features of Unix/Linux. Included in the course are web applications, integrated network configurations, file transfer, server administration, system controls, iptables/firewall to secure Unix/Linux systems, and strategic user-group applications specific to administrative network control.	10	12
2019-2020	927415	HELP DESK APPLICATIONS	The main purpose of this course is to provide students with a comprehensive understanding of the helpdesk environment and the knowledge, skills, and abilities necessary to work in the user support industry. Students will learn problem-solving and communication skills that are very valuable when providing user support. Through hands-on exercises and case projects students will learn how to apply their knowledge and develop their ideas and skills.	10	12
2019-2020	927416	COMPUTER ETHICS	This course will survey the various issues surrounding computer ethics	10	12
2019-2020	927417	COMMERCIAL SOFTWARE APPLICATIONS	This is a "hands-on" introduction to software packages, languages, and utility programs currently in use, with the course being able to repeat for credit for each different topic being covered. Emphasis is placed on the purpose capabilities and utilization of each package, language or program. Upon completion, students will be able to use the features selected for the application covered.	10	12
2019-2020	927418	INTRODUCTION TO THE INFORMTION HIGHWAY	This course introduces the student to the basic principles of the information highway. Students will be exposed to different network information tools such as electronic mail, network news, gophers, the World Wide Web, browsers, commercial information services and the use of appropriate editors or software to introduce construction of Web environments.	10	12
2019-2020	927419	INTRODUCTION TO WEB DEVELOPMENT	At the conclusion of this course, students will be able to use specified markup languages to develop basic Web pages.	10	12
2019-2020	927420	INTERMEDIATE WEB DEVELOPMENT	This course builds upon basic skills in Web authoring. Various Web authoring tools are introduced. Upon completion students will be able to use these tools to enhance Web sites.	10	12
2019-2020	927421	ADVANCED WEB DEVELOPMENT	This is an advanced Web design course emphasizing the use of scripting languages to develop interactive Web sites. Upon completion students will be able to create data driven Web sites. This course helps prepare students for the Certified Internet Webmaster (CIW) Foundations certification.	10	12
2019-2020	927422	VISUAL BASIC PROGRAMMING	This course emphasizes BASIC programming using a graphical user interface. The course will emphasize graphical user interfaces with additional topics on such topics as advanced file handling techniques, simulation, and other selected areas. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	927423	ADVANCED VISUAL BASIC PROGRAMMING	This course is a continuation of DPT 212, Visual Basic Programming.	10	12
2019-2020	927424	DATABASE MANAGEMENT SYSTEMS	This course will discuss database system architectures, concentrating on Structured Query Language (SQL). It will teach students how to design, normalize and use databases with SQL, and to link those to the Web.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927425	MICROCOMPUTER OPERATING SYSTEMS	This course provides an introduction to microcomputer operating systems. Topics include a description of the operating system, system commands, and effective and efficient use of the microcomputer with the aid of its system programs. Upon completion, students should understand the function and role of the operating system, its operational characteristics, its configuration, how to execute programs, and efficient disk and file management.	10	12
2019-2020	927426	E-COMMERCE	This course is an introduction into e-commerce. Topics include marketing, building an e-commerce store, security, and electronic payment systems. Upon completion students will be able to build an e-commerce presence.	10	12
2019-2020	927427	C++ PROGRAMMING	This course is an introduction to the C++ programming language including object oriented programming. Topics include: problem solving and design; control structures; objects and events; user interface construction; and document and program testing.	10	12
2019-2020	927428	ADVANCED C++ PROGRAMMING	This course is a continuation of C++ programming. Techniques for the improvement of application and systems programming will be covered and other topics may include memory management, C Library functions, debugging, portability, and reusable code. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	927429	JAVA PROGRAMMING	This course is an introduction to the Java programming language. Topics in this course include object-oriented programming constructs, Web page applet development, class definitions, threads, events and exceptions. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	927430	ADVANCED JAVA	This course is a second course of a sequence using the Java programming language. Topics include: Sun's Swing GUI components, JDBC, JavaBeans, RMI, servlets, and Java media framework. Upon completion, the student will be able to demonstrate knowledge of the topics through programming projects and appropriate exams.	10	12
2019-2020	927431	BUSINESS APPLICATION	Prior programming training is put to use in implementing a practical business application such as accounts receivable, accounts payable, payroll, or other business system. A different application is selected each semester. Instructor will provide student with the necessary data and the student will create all the programs that are necessary to produce the expected results. This course will require outside laboratory time to produce programs for evaluation. Mastery of the language selected for the study, at the desired level, is required.	10	12
2019-2020	927432	SOFTWARE SUPPORT	This course provides students with hands-on practical experience in installing computer software, operating systems, and trouble-shooting. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This course is a suitable substitute for DPT 239, Networking Software. This is a CORE course.	10	12
2019-2020	927433	HARDWARE SUPPORT	This course provides students with hands-on practical experience in installation and troubleshooting computer hardware. The class will help to prepare participants for the A+ Certification sponsored by CompTIA. This is a suitable substitute for DPT 240, Networking Hardware. This is a CORE course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927434	INTRODUCTION TO NETWORKING COMMUNICATIONS	This course is designed to introduce students to basic concepts of computer networks. Emphasis is placed on terminology and technology involved in implementing selected networked systems. The course covers various network models, topologies, communications protocols, transmission media, networking hardware and software, and network troubleshooting. Students gain hands-on experience in basic networking. This course further helps prepare students for certification.	10	12
2019-2020	927435	WORKSTATION ADMINISTRATION	This course provides a study of client system administration in a network environment. Topics include installing monitoring maintaining, and troubleshooting client operating system software and managing hardware devices and shared resources. Students gain hands-on experience in client operating system installation and basic administration of network workstations.	10	12
2019-2020	927436	SERVER ADMINISTRATION	This course introduces network operating system administration. Topics included in this course are network operating system software installation, administration, monitoring, and maintenance; user, group, and computer account management; shared resource management; and server hardware management. Students gain hands-on experience in managing and maintaining a network operating system environment.	10	12
2019-2020	927437	NETWORK SERVICES ADMINISTRATION	This course provides an introduction to the administration of fundamental networking services and protocols. Topics included in this course are implementing, managing, and maintaining essential network operating system services such as those for client address management, name resolution, security, routing, and remote access. Students gain hands-on experience performing common network infrastructure administrative tasks.	10	12
2019-2020	927438	DIRECTORY SERVICES ADMINISTRATION	This course provides a study of planning, implementing, and maintaining a network directory service. Topics included in this course are planning and implementing network directory organizational and administrative structures. Students gain hands-on experience using a directory service to manage user, group, and computer accounts, shared folders, network resources, and the user environment.	10	12
2019-2020	927439	NERWORK INFRASTRUCTURE DESIGN	This course provides a study of network infrastructure design. Topics included in this course are strategies for planning, implementing, and maintaining server availability and security, client addressing schemes, name resolution, routing, remote access, and network security. Students gain experience by designing plans for implementing common network infrastructure and protocols.	10	12
2019-2020	927440	NETWORK SECURITY	This course provides a study of threats to network security and methods of securing a computer network from such threats. Topics included in this course are security risks, intrusion detection, and methods of securing authentication, network access, remote access, Web access, and wired and wireless network communications. Upon completion students will be able to identify security risks and describe appropriate counter measures.	10	12
2019-2020	927441	SYSTEM ANALYSIS AND DESIGN	This course is a study of contemporary theory and systems analysis and design. Emphasis is placed on investigating, analyzing, designing, implementing, and documenting computer systems. Upon completion, the student will been able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	927442	COMPUTER FORENSICS	This course introduces students to methods of computer forensics and investigations. This course helps prepare students for the International Association of Computer Investigative Specialists (IADPT) certification.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927443	DPT INTERNSHIP	This course is designed to provide the student with an opportunity to work in a degree/program related environment. Emphasis is placed on the student's "real world" work experience as it integrates academics with practical applications that relate meaningfully to careers in the computer discipline. Significance is also placed on the efficient and accurate performance of job tasks as provided by the "real world" work experience. Grades for this course will be based on a combination of the employer's evaluation of the student, and the contents of a report submitted by the student. Upon completion of this course, the student should be able to demonstrate the ability to apply knowledge and skills gained in the classroom to a "real world" work experience.	10	12
2019-2020	927444	OBJECT ORIENTED PROGRAMMING	This course is an advanced object-oriented programming course and covers advanced program development techniques and concepts in the context of an object-oriented language. Subject matter includes object-oriented analysis and design, encapsulation, inheritance, polymorphism (operator and function overloading), information hiding, abstract data types, reuse, dynamic memory allocation, and file manipulation. Upon completion, students should be able to develop a hierarchical class structure necessary to the implementation of an object-oriented software system.	10	12
2019-2020	927445	SQL SERVER	This course will provide students with the technical skill required to install, configure, administer and troubleshoot SQL Server client/server database management system. At the completion of this series students will be able to: identify the features of SQL Server and the responsibilities and challenges in system administration; identify the benefits of integrating SQL Server and setup clients for SQL Server; install and configure SQL Server; manage data storage using database devices and partition data using segments; manage the user accounts; manage user permissions; identify the various task scheduling and alerting abilities of SQL Executive; identify the concepts used in replication and implement replication of data between two SQL Services; identify the types of backup and create backup devices; identify the factors effecting SQL Server performance and the need for monitoring and tuning; locate and troubleshoot problems that occur on the SQL Server.	10	12
2019-2020	927446	END USER AND DESKTOP APPLICATIONS SUPPORT I	This course is the prep course for MCDST exam #70-271. This course covers the knowledge and skills necessary to support desktop operating systems in a corporate or small business environment	10	12
2019-2020	927447	END USER AND DESKTOP APPLICATIONS SUPPORT II	This course is the prep course for MCDST exam #70-272. This course covers the knowledge and skills necessary to support end users in a corporate environment.	10	12
2019-2020	927448	CASE STUDY IN COMPUTER SCIENCE	This course is a case study involving the assignment of a complete system development project for analysis, programming, implementation, and documentation. Topics include planning system analysis and design, programming techniques, coding and documentation. Upon completion, students should be able to design, code, test and document a comprehensive computer information system.	10	12
2019-2020	927449	DIRECTED STUDIES IN COMPUTER SCIENCE	This course allows independent study under the direction of an instructor. Topics to be included in the course material will be approved by the instructor prior to or at the beginning of the class. Upon completion, the student will be able to demonstrate knowledge of the topics as specified by the instructor.	10	12
2019-2020	927601	INTRODUCTION TO ENGINEERING TECHNOLOGIES	This course is designed to introduce the student to the basic concepts, terminology, and procedures associated with applied analytical skills needed to succeed in higher level courses. To include: engineering notation, use of scientific calculators, triangulation methods, and the basic laws of electricity.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927602	DC FUNDAMENTALS	This course provides an in depth study of direct current (DC) electronic theory. Topics include atomic theory, magnetism, properties of conductors and insulators, and characteristics of series, parallel, and series-parallel circuits. Inductors and capacitors are introduced and their effects on DC circuits are examined. Students are prepared to analyze complex DC circuits, solve for unknown circuit variables and to use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot DC circuits. Emphasis is placed on the use of scientific calculator and the operation of common test equipment used to analyze and troubleshoot DC and to prove the theories taught during classroom instruction. CORE	10	12
2019-2020	927603	AC FUNDAMENTALS	This course provides an in depth study of alternating current (AC) electronic theory. Students are prepared to analyze complex AC circuit configurations with resistors, capacitors, and inductors in series and parallel combinations. Topics include electrical safety and lockout procedures, specific AC theory functions such as RLC, impedance, phase relationships, and power factor. Students will be able to define terms, identify waveforms, solve complex mathematical problems, construct circuits, explain circuit characteristics, identify components, and make accurate circuit measurements using appropriate measurement instruments. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems. CORE	10	12
2019-2020	927604	SOLID STATE FUNDAMENTALS	This course provides instruction in basic solid state theory beginning with atomic structure and includes devices such as diodes, bipolar transistors, field effect transistors, amplifiers, thyristors, operational amplifiers, oscillator and power supply circuits. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits. This course also provides the opportunity for students to apply the solid-state principles and theories learned in class in the laboratory setting. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits. CORE	10	12
2019-2020	927605	RESIDENTIAL WIRING	This is an introduction to the National Electrical Code, wiring plans, specifications, and installation methods as they apply to residential wiring, electrical telephone, and sound systems.	10	12
2019-2020	927606	ELECTRICAL BLUEPRINT READING I	This course will enable the student to obtain a working knowledge of the elements of blueprint reading, the ability to interpret electrical, mechanical, and architectural drawing, and the ability to visualize the entire building structure in relationship to the electrical system. CORE	10	12
2019-2020	927607	COMMERCIAL/INDUSTRIAL WIRING I	This course focuses on principles and applications of commercial and industrial wiring. Topics include, electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927608	CONCEPTS OF DIRECT CURRENT	This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction. This course may serve as a substitute core for DC Fundamentals.	10	12
2019-2020	927609	CONCEPTS OF ALTERNATING CURRENT	This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits. This course may serve as a substitute core for AC Fundamentals.	10	12
2019-2020	927610	CONCEPTS OF SOLID STATE ELECTRONICS	This course is an introduction to semiconductor fundamentals and applications to the electronic devices. Course covers the basic operations and applications to include rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personal as well as material and environmental considerations. Upon completion students will be able to construct and test for proper operation of various types of solid state devices.	10	12
2019-2020	927611	CONCEPTS OF DIGITAL ELECTRONICS	This course provides instruction in digital electronics. Topics include: number systems and codes, a review of Boolean algebra, logic elements, digital circuits, programmable logic circuits, and memory and computing circuits. This course provides laboratory exercises to analyze, construct, test and troubleshoot digital circuits.	10	12
2019-2020	927612	CONCEPTS OF ELECTRONIC CIRCUITS	This course covers the commonly utilized circuits found in all areas of electronics. These include various rectifiers, filters, voltage regulating circuits, operational amplifier circuits, ICs, and oscillator circuits. Upon completion students will be able to construct and test various types of electronic circuits.	10	12
2019-2020	927613	CIRCUIT FABRICATION I	This course provides instruction in fabrication of functional circuits and is an introduction to device construction and fabrication. Utilizing discrete components, students will fabricate functional circuits. Topics include soldering, cable construction, coaxial cable connection and termination, component mounting, cases and chassis, printed circuit board design, layout, fabrication and repair, as well as soldering techniques, care of tools, wire splicing, wire wrapping, connector maintenance, and related shop safety. Upon completion of this course, students should be able to perform basic circuit and project construction. CORE	10	12
2019-2020	927614	TRANSMISSION FUNDAMENTALS	This course is designed to give the student a working knowledge of telephone voice and data transmission over wires or carrier, including the fundamentals of signaling, supervision and loop treatment.	10	12
2019-2020	927615	MICROCOMPUTER SYSTEMS AND APPLICATION	This course includes the study of primary storage, secondary storage devices, input and output operations. Special emphasis is placed on operating systems, installation, A+ certification, setup and function. Upon completion, the student will demonstrate an understanding of system software, function, and utilization of computer hardware.	10	12
2019-2020	927616	RESIDENTIAL WIRING LAB	This course is the hands-on practice of the theory taught in EET 108 or concurrent enrollment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927617	TRANSMISSION FUNDAMENTALS LAB	This is a concurrent lab for EET 122. Experiments are designed to teach testing and analysis of transmission signals.	10	12
2019-2020	927618	POWER SYSTEMS	This covers the theory and practical application of telephone power equipment. Ferroresonate power supplies, batteries and signaling equipment maintenance are included.	10	12
2019-2020	927619	MICROPROCESSOR BASICS	An introduction to the organization and interconnection of microprocessor system components. Topics include machine architecture, arithmetic logic, data handling operations, bus concepts, interrupt concepts, subroutines, stack operations, and elementary programming. Upon completion of this course, a student will be able to program a simple microprocessor system.	10	12
2019-2020	927620	INSTALLATION PRACTICES	This course is a study of various tasks, wiring methods, materials, and associated NEC requirements that students will be required to work with in residential and commercial wiring courses.	10	12
2019-2020	927621	ELECTRONIC CIRCUITS I	This course covers the commonly utilized circuits found in all areas of electronics. These include the various rectifier, filter, voltage regulating circuits, and linear solid-state amplifier circuits. The entire course emphasizes the typical circuits, their principles of operation, and troubleshooting defective circuits. This course has an embedded lab with laboratory exercises designed to develop the skills listed in the Industry competencies. CORE	10	12
2019-2020	927622	DIGITAL FUNDAMENTALS	This course provides instruction on basic logic gates, flip-flops, registers, counters, microprocessor/computer fundamentals, analog to digital conversion, and digital analog conversion. Emphasis is placed on number systems, Boolean algebra, combination logic circuits, sequential logic circuits, and typical microprocessor data manipulation and storage. This course also has an embedded lab with exercises designed to develop skills required by industry. Upon completion, students should be able to analyze digital circuits, draw timing diagrams, determine output of combinational and sequential logic circuits and diagnose and troubleshoot electronic components as well as demonstrate knowledge of microprocessor and computer circuits. CORE	10	12
2019-2020	927623	INTRO TO ROBOTICS	This course provides an introduction to robots for students preparing to work in environments using robots. Topics covered include the service and repair of robots plus applications and uses of robots. Upon completion of this course and EET 212 a student will be able to program and operate a simple robot.	10	12
2019-2020	927624	FIBER OPTICS	This course covers basic fiber optic transmissions principles including optical devices and light propagation through glass fibers. Connectors and splicing fibers are integrated, along with data transmission measurement.	10	12
2019-2020	927625	INTRO TO ROBOTICS LAB	Companion to EET 207. Emphasizes hands-on experience with actual robots. Upon completion of this course and EET 207 a student will be able to program and operate a simple robot.	10	12
2019-2020	927626	PROCESS CONTROL AND INSTRUMENTATION	This course provides an introduction to the field of process control and instrumentation. Topics covered include sensors, transducers, signal conditioning, control devices, process meters and PID controllers. Upon completion of this course and EET 238 a student will be able to analyze a simple industrial process control system.	10	12
2019-2020	927627	ELEMENTS OF INDUSTRIAL CONTROLS WITH PLCs	This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated lab a student will be able to configure and program a PLC.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927628	ELECTRONICS COMMUNICATIONS	A study of electronic circuits used for communication. Topics include amplitude modulation, frequency modulation, single-sideband operation, and performance measurements. Upon completion of this course a student will be able to analyze and operate a simple communication system.	10	12
2019-2020	927629	CABLE SPLICING AND INSTALLATION	This course provides instruction in splicing and installing low and medium voltage power cable, hi -voltage cable, fiber optic cable, communication and voltage wiring systems. Emphasis is placed on sizes conductors and use of proper connectors and materials used in splicing and connecting. Upon completion, students should be able to properly size, splice, connect and insulate all types of cables.	10	12
2019-2020	927630	ELEMENTS OF INDUSTRIAL CONTROLS WITH PLCs LAB	This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated theory course a student should be able to configure and program a PLC	10	12
2019-2020	927631	COMMUNICATIONS BASICS	An introduction to electronic communication. Topics include AM and FM modulation and demodulation, RF amplifiers, mixers, heterodyning and frequency shifting, and oscillators. Upon completion of this course and EET 231 students should be able to describe operate, and troubleshoot basic communication circuits.	10	12
2019-2020	927632	COMMUNICATIONS BASICS LABORATORY	Companion to EET 230. Topics include RF amplifiers, oscillators, mixers, AM and FM modulation and demodulation. Upon completion of this course and EET 230 a student will be able to describe operate, and troubleshoot basic communication circuits.	10	12
2019-2020	927633	MICROPROCESSOR ASSEMBLER	This course introduces the student to the use of assembly language to troubleshoot and analyze microprocessor systems. Students will set up hardware, write basic assembly language programs, and test systems. Upon completion of this course a student will be able to analyze and troubleshoot microprocessor systems by way of assembly language	10	12
2019-2020	927634	ROBOTIC SYSTEMS	This course introduces the student to elements that make up a robotic system. The fundamental parts of the robotic system are studied in detail as to their function, components, and integration into a robotic system. Upon completion of this course and EET 239 a student will be able to program and operate a simple robot.	10	12
2019-2020	927635	NATIONAL ELECTRIC CODE	This course introduces the students to the National Electric Code and text and teaches the student how to find needed information within this manual. Emphasis is placed on locating and interpreting needed information within the NEC code manual. Upon completion, students should be able to locate, with the NEC code requirements for a specific electrical installation.	10	12
2019-2020	927636	PROCESS CONTROL AND INSTRUMENTATION LAB	Companion to EET 213. Emphasizes hands-on experience for the student using transducers and sensors as well as control of processes. Upon completion of this course and EET 213 a student will be able to analyze a simple industrial process control system.	10	12
2019-2020	927637	ROBOTIC SYSTEMS LAB	Companion to EET 234. Emphasizes hands-on experience in the basics of a robotic system in the laboratory. Upon completion of this course and EET 234 a student will be able to program and operate a simple robot.	10	12
2019-2020	927638	COMMUNICATIONS ADVANCED	A continuation of EET 230. Topics include transmission lines, antennas, microwave systems, radar, and FDM. Upon completion of this course and EET 241 a student will be able to describe and analyze transmission lines, antennas, microwave systems, radar, and FDM.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927639	MICROCOMPUTER SYSTEM PRINCIPLES	This course is a fundamental study of installation, identification of systems and sub-systems, upgrades, maintenance, program writing with emphasis on system testing, A+ certification and the use of diagnostic software. Topics include networking concepts, sharing devices across a network, and utilization of microprocessors. Upon completion, the student will demonstrate an understanding of computer systems and concepts.	10	12
2019-2020	927640	CET PREPARATION	This course is designed to prepare students for the Associate Certified Electronics Technicians (CET) examination. This course covers a wide spectrum of materials presented in the electronics program. Upon completion, students should be prepared to take the CET exam.	10	12
2019-2020	927641	ELECTRONIC SERVICE LAB	An introduction to product service technique. Emphasis is placed on the repair, calibration, and operation of a wide variety of test equipment, instruments and systems. Upon completion of this course and EET 253 a student will be able to repair an actual electronic device.	10	12
2019-2020	927642	MICROCOMPUTER SYSTEMS BASIC I	This course is a fundamental study of the systems and subsystems in a microcomputer and covers the Core Hardware requirements for A+ certification.	10	12
2019-2020	927643	MICROCOMPUTER SYSTEMS BASIC I LAB	This course is a practical application of the techniques learned in EET 254. Upon completion, students should have the core computer hardware skills necessary for acquiring A+ certification.	10	12
2019-2020	927644	MICROCOMPUTER SYSTEMS ADVANCED I	This course is a continuation of EET 254 and 255. Topics covered in this course include operating systems and networking. Students are prepared to acquire A+ certification after completion of this course.	10	12
2019-2020	927645	MICROCOMPUTER SYSTEMS ADVANCED I LAB	This course is a continuation of EET 256 and provides opportunities for practical application of the techniques learned in EET 256. Upon completion, students should be prepared to acquire A+ certification.	10	12
2019-2020	927646	BASIC ELECTRONICS TROUBLESHOOTING	This course allows students to apply previously learned concepts to the diagnostic process of troubleshooting electronics equipment. Course topics include circuit characteristics, component characteristics, diagnostics, signal insertion, waveform analysis/tracing, finding opens and shorts, use of schematic diagrams, and the use of test equipment. Students will be able to determine equipment malfunctions in basic electronics equipment.	10	12
2019-2020	927647	MICROPROCESSORS INTERFACING	A continuation of EET 250. Emphasis is placed on interfacing microprocessor systems. Upon completion of this course and EET 261 a student will be able to interface a microprocessor.	10	12
2019-2020	927648	MICROPROCESSORS INTERFACING LABORATORY	A continuation of EET 251. Emphasis is placed on interfacing microprocessor systems. Upon completion of this course and EET 260 a student will be able to interface a microprocessor.	10	12
2019-2020	927649	INDUSTRIAL AUTOMATION PROJECT	A technical elective which gives students the opportunity to work on projects with area industries. The nature and size of the projects undertaken will vary and will typically require assistance from other technical disciplines such as engineering, mechanical design, and machine tool. Upon completion of this course a student will be able to apply skills learned in preceding courses.	10	12
2019-2020	927650	ELEMENTS OF INDUSTRIAL CONTROLS WITH PLCs II	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	927651	ELEMENTS OF INDUSTRIAL CONTROLS WITH PLCs II LAB	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	927652	MICROCOMPUTERS REPAIR	An introduction to microcomputer repair. Topics include microcomputer architecture, clocks, microprocessors, BUS lines, memory maps, input/output boards, monitors, disk drives, and power supplies. Upon completion of this course a student will be able to locate and replace a defective microcomputer circuit board or device.	10	12
2019-2020	927653	ELECTRONICS PROJECT	This course integrates skills and knowledge from other courses. Upon course completion, a student will be able to design, fabricate, analyze, program, and/or operate an electronic system under faculty supervision. Emphasis will be placed on skills identified by the instructor.	10	12
2019-2020	927654	CO-OP EDUCATION	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	927801	SIMULATION FUNDAMENTALS	This course provides a study of simulation fundamentals. Topics included in this course are the history, use, procedures, safety and basic structure of a simulation. Upon completion, students will be able to describe how simulation can be applied to a particular need and then address safety and procedural concerns.	10	12
2019-2020	927802	SIMULATION SYSTEM TESTING	This course provides an introduction to testing procedures, equipment and documentation at system, sub-system, and component level as used in a simulator. Topics included in this course are equipment identification, using equipment documentation and specifications, generating test results, evaluating test results and user reports, and performing quality control. Upon completion, students will be able to identify test equipment, the procedures appropriate to perform testing and evaluate results, and the steps in quality control.	10	12
2019-2020	927803	SIMULATION SYSTEM TROUBLESHOOTING	This course provides an introduction to simulation troubleshooting procedures. Topics included in this course are troubleshooting techniques and replacing of defective components including visuals, communications, navigation, motion controls, avionics, power, and safety sub-systems. Upon completion, students will be able to identify troubleshooting techniques, perform diagnostic testing and describe replacement of failed components.	10	12
2019-2020	927804	ADVANCED SIMULATION SYSTEMS	This course provides a study of rules governing simulation modification and upgrading. Topics included in this course are evaluation of simulator performance in comparison to requirements, working with different specification documentation, technical writing, identifying modification and upgrading needs, subsystem calibration, and alignment procedures.	10	12
2019-2020	928001	INTRODUCTION TO ELECROMECHANICAL TECHNOLOGY	This course is an introduction to the electromechanical technologies industry. Topics include the electromechanical career field, study habits and techniques, electronic calculator, measurement systems, right-triangle geometry and trigonometry, laboratory procedures, and microcomputers. Upon completion of this course, a student will be able to choose an appropriate electromechanical career option, prepare assignments, prepare for examinations and use a calculator/microcomputer to report the results of a laboratory procedure.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928002	ELECTROMECHANICAL HARDWARE	This course covers a hands-on introduction to electromechanical hardware. Topics include trainer familiarization, logic gate applications, binary numbers, encoders, decoders, adders, and subtractors. Upon completion of this course, a student will be able to connect a laboratory apparatus, convert decimal numbers to binary and vice versa, add binary numbers, and subtract binary numbers.	10	12
2019-2020	928003	ELECRTOMECHANICAL FIRMWARE	Topics include trainer familiarization, numbering systems, firmware programming, firmware architecture, assembly language programming and editing, input/output techniques, logical operations, arithmetic operations, program branches, and program loops. Upon completion of this course, a student will be able to program simple electronic firmware.	10	12
2019-2020	928004	EMERGING TECHNOLOGIES, HISTORY, AND BASIC TELLECOMMUNICATIONS	This course introduces key events, trends, person, and terms in telecommunications history. Upon completion of this course, students should be able to identify key developments to telephone service, recognize key terms and acronyms, determine career opportunities and skill requirements in telecommunications design work. The student will be able to describe current state-of-the-art systems and equipment offerings, understand the impact of evolving technologies, discuss future trends, and apply design considerations to creative solutions to matching customer needs.	10	12
2019-2020	928005	ELECTRIC CIRCUITS I	This course provides an in depth study of direct current (DC) electronic theory. Topics include atomic theory, magnetism, properties of conductors and insulators, and characteristics of series, parallel, and series-parallel circuits. Inductors and capacitors are introduced and their effects on DC circuits are examined. Students are prepared to analyze complex DC circuits, solve for unknown circuit variables and to use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot DC circuits. Emphasis is placed on the use of scientific calculator and the operation of common test equipment used to analyze and troubleshoot DC and to prove the theories taught during classroom instruction.	10	12
2019-2020	928006	ELECTRIC CIRCUITS II	This course provides an in depth study of alternating current (AC) electronic theory. Students are prepared to analyze complex AC circuit configurations with resistors, capacitors, and inductors in series and parallel combinations. Topics include electrical safety and lockout procedures, specific AC theory functions such as RLC, impedance, phase relationships, and power factor. Students will be able to define terms, identify waveforms, solve complex mathematical problems, construct circuits, explain circuit characteristics, identify components, and make accurate circuit measurements using appropriate measurement instruments. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems.	10	12
2019-2020	928007	DIGITAL CIRCUITS I	This course covers digital logic and digital networks. Topics include introductory concepts, number systems, codes, logic gates, Boolean algebra, combinational logic, flip-flop and related devices, arithmetic operations and arithmetic networks. Upon completion of this course, a student will be able to add, subtract, and multiply with digital electronic components.	10	12
2019-2020	928008	DIGITAL CIRCUITS II	Topics include counters, registers, logic families, MSI networks, analog interfacing, memory devices, and programmable devices. Upon completion of this course, a student will be able to implement a logic design using programmable devices.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928009	Electronics II	This course examines the conventional flow treatment of electronic devices and networks. Topics include semiconductor diodes, power supplies, bipolar-junction transistors, amplifiers, buffers, field-effect transistors, and thyristors. Upon completion of this course, a student will be able to analyze a discrete-component electronic network.	10	12
2019-2020	928010	ELECTRONICS II	Topics include analog integrated circuits, amplifiers, buffers, filters, inverters, and oscillators. Upon completion of this course, a student will be able to analyze and integrated-circuit electronic network.	10	12
2019-2020	928011	MICROCOMPUTERS REPAIR I	This course provides instruction in fundamental microcomputer repair. Topics include microcomputer architecture, clocks, microprocessors, bus lines, memory maps, input/output boards, monitors, disk drives, and power supplies. Upon completion of this course, a student will be able to locate and replace a defective microcomputer circuit board.	10	12
2019-2020	928012	MICROCOMPUTER REPAIR II	Topics include test equipment, diagnostic programs, common component problems, memory chips, and de-soldering. Upon completion of this course, a student will be able to locate and replace a defective microcomputer component.	10	12
2019-2020	928013	FLUID POWER I	This course offers an introduction into fluid power systems. Topics include hydraulic and pneumatic power, pressure, flow, speed and pressure control, relief valves, and directional control valve (DCV) applications. Upon completion of this course the student will have demonstrated the ability to read gauges, design, draw, and connect hydraulic and pneumatic circuits, measure and calculate circuit parameters, connect and operate DCV's and relief valves.	10	12
2019-2020	928014	FLUID POWER II	Topics include hydraulic check valves, accumulators, pneumatic maintenance. Upon completion of this course the student will have demonstrated the ability to connect and operate check valve, accumulator, and motor circuits, measure and calculate hydraulic and pneumatic motor circuit parameters, select and install fluid conditioning components, size, connect and operate air compressor, perform pneumatic maintenance.	10	12
2019-2020	928015	PUMPS AND PIPING SYSTEMS	This course offers an introduction into pumps and piping systems. Topics include various types of pumps, pump analysis (power, efficiency, characteristics) pump selection and maintenance, metal, plastic, and threaded piping systems, hoses, valves, regulators, strainers, and filters. Upon completion of this course the student will have demonstrated the ability to: select, install, and start up various types of pumps, measure and calculate pump parameters and performance, disassemble and inspect pumps, size and select pipes, thread metal pipes, read and interpret piping schematics, assemble piping systems, select, size, and repair valves and regulators.	10	12
2019-2020	928016	INDUSTRIAL CONTROLS I	This course offers an introduction into electrical motor control systems and industrial wiring. Topics include transformers, ladder logic, relays, motor starters, timers and counters, blueprints, conduit selection and forming, raceways, wire sizing, termination, splicing, and installation, circuit protection, and disconnects. Upon completion of this course the student will have demonstrated the ability to: perform lockout/tagout, connect and operate motors and control circuits, calculate transformer voltages, size, connect and operate control transformers, interpret electrical blueprints, splice, run, and terminate control wiring, bend and install conduit and wiring.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928017	INDUSTRIAL CONTROLS II	Topics include DC and AC motors, motor speed, torque, and performance, generators, advanced motor control, braking, variable frequency AC drives, and troubleshooting. Upon completion of this course the student will have demonstrated the ability to connect and operate DC and AC motors and generators, measure and calculate motor parameters, connect, operate, and troubleshoot motor control components, and program and operate variable frequency AC drives.	10	12
2019-2020	928018	DC MACHINERY	This course provides a introduction to the characteristics and control of DC machinery. Topics include electromagnetic energy conversion, general principles of DC machines, motors, motor control, and generators. Upon completion of this course, a student will be able to operate and maintain a DC machine.	10	12
2019-2020	928019	AC MACHINERY	This course provides an introduction to the characteristics and control of AC machinery. Topics include distribution transformers, three-phase induction machines, synchronous motors, and synchronous generators. Upon completion of this course a student will be able to operate and maintain an AC machine.	10	12
2019-2020	928020	HISTROY OF TELLECOMMUNICATIONS	This course introduces key events, trends, persons, and terms in telecommunications history, with an emphasis on the development of telephone communications systems in the United States. Upon completion of this course, a student will be able to identify key developments leading up to the invention of telephone service, describe the impact of monopoly and competition on the telecommunications industry, recognize key terms and acronyms, determine career opportunities and skill requirements in telecommunications design work, and demonstrate an understanding of current events worldwide in the industry.	10	12
2019-2020	928021	BASICS OF TELECOMMUNICATIONS	This course is an introduction to the systems and operating theory for telecommunications. Upon completion of this course, a student will be able to define the relationship of voice characteristics to sound transmission, identify components of the telephone network, differentiate between analog and digital transmission, define the function of components of the physical plant, describe the services offered through the telephone industry, and define the basic requirements of data communications.	10	12
2019-2020	928022	TELECOMMUNICATIONS DESIGN	This course introduces the key design concepts related to outside plant engineering. Emphasis will be placed on system components and the basic steps required for the major types of OSP work assignments. Upon completion of this course a student will be able to identify telephone network design elements, explain network functions, feeder facilities and distribution allocation, identify system components (materials and equipment considerations), determine factors related to system growth and expansion, recognize and read work documentation (planning, records and basic plat design), define long range outside plant/distribution area planning considerations, describe project interfaces (customer, service provider, designer, constructor), and identify design considerations.	10	12
2019-2020	928023	ENGINEERING AERIAL, BURIED, AND UNDERGROUND PLANT	This course prepares the learner for successful completion of aerial, buried and underground outside plant design assignments. The course will place an equal emphasis on key concepts of outside plant design and on work-related activities including familiarization with equipment, projects involving the design for new or existing facilities, and skills required for key work activities. Upon completion of this course, a student will be able to make aerial, buried and underground design choices, work safely while taking field measurements, design and draw an outside plant jobs, and complete steps required for documentation and approval.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928024	DIGITAL CARRIER SYSTEMS	This course introduces the learner to critical factors and basic components of digital carrier systems. The course will place an equal emphasis on key concepts of DLC design and on work-related activities including familiarization with equipment, projects involving design work for new or existing facilities, and skills required for key work activities. Upon completion of this course, a student will be able to identify components of digital loop carrier systems (equipment and materials), define record-keeping essentials for digital systems, determine factors in digital design choice, diagram simple systems, and identify system checks.	10	12
2019-2020	928025	DESIGNING DIGITAL SYSTEMS	This course prepares the learner for successful completion of digital carrier work assignments. The course will emphasize the process required to carry out complex work assignments in the design of digital systems. Upon completion of this course, a student will be able to determine the key design factors involved in representative work assignments, determine design and safety considerations related to digital carrier work, design and draw typical carrier jobs, and complete steps required for documentation and approval.	10	12
2019-2020	928026	OUTSIDE PLANT ENGINEERING QUALITY AND SAFETY	This course helps the learner develop critical skills for incorporating quality and safety in all aspects of OSP work. Upon completion of this course, the student will be able to define customer requirements drawn from contract specifications, quality measurements, and other quality assurance system requirements, locate and determine applicable design standards for OSP work, incorporate standards in OSP design jobs, conduct job reviews for both quality and safety considerations, and demonstrate objective audit skills while conducting reviews of work practices and jobs completed.	10	12
2019-2020	928027	EMERGING TECHNOLOGUES IN TELECOMMUNICATIONS	This course explores current practices and evolving trends in telecommunication systems. Students will be encouraged to pursue innovative design possibilities as well as in-depth studies of state-of-the-art systems. Upon completion of this course, a student will be able to describe current state-of-the-art systems and equipment offerings, demonstrate an understanding of the impact of evolving/revolutionizing technologies on telecommunications, discuss future trends, and apply design considerations to creative solutions for matching customer demands and new applications (wireless, PCS, cellular, satellite, broadband, video-data-voice integration, high-speed transfer, NGDLC, optical delivery, etc.). Students will be expected to complete and present a major project demonstrating independent research and practical application relating to emerging technologies.	10	12
2019-2020	928028	TELECOMMUNICATIONS I	This course offers a introduction to telecommunications technology. Topics include noise, modulation, ad television. Upon completion of this course, a student will be able to calculate noise voltage, calculate noise figure, describe the various types of modulation, and describe the operation of a television receiver.	10	12
2019-2020	928029	TELECOMMUNICATIONS II	Topics include communication techniques, digital communications, transmission lines, wave propagation, antennas, and waveguides. Upon completion of this course, a student will be able to describe the various types of communications, describe various types of digital communication, solve for a single transmission variable, describe the various types of wave propagation, describe the various types of antenna, and describe the various types of wave guide.	10	12
2019-2020	928030	ELECTOMECHANICAL PROJECT	This course provides practical application of prior attained skills. Emphasis is placed on applying skills learned in designing, fabricating, analyzing, programming, and/or operating an electromechanical system under faculty supervision. Upon completion of this course, a student will demonstrate knowledge in this field by developing an electromechanical project.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928201	APPLIED ELECTRONIC COMPUTATION	This course is an applied mathematics and algebra course for students in electronics or similar programs. Topics include decimals, fractions, negative numbers, powers and roots, the metric systems, logarithms, applied trigonometry and algebra. Upon completion of this course a student will be able to perform applied mathematics calculations needed in Electronics.	10	12
2019-2020	928202	DISTRIBUTION SYSTEMS	This course involves the theory, applications, calculations, and connections associated with transformers and power distribution systems commonly used in the electrical field.	10	12
2019-2020	928203	AC PRINCIPLELS OF ELECTRICITY II	This course is a study of AC magnetic devices including single phase and three phase transformers, basic motor principles of electromagnetism, AC relay principles and testing these components. Topics covered include AC transformers, AC motor and AC motor and AC relay principles and their application. Upon completion, students should be able to explain, wire troubleshoot and test these basic components in various real world circuits	10	12
2019-2020	928204	DC PRINCIPLELS OF ELECTRICITY II	This course is a study of energy sources and measurements, batteries, conductor sizes and rating electric magnetic fields, and electrical safety. Emphasis is on energy transfer, electric heating, battery supplies, conductor ratings and protection, magnetic fields, and safety. Upon completion students should be able to explain types of energy batteries, different types of conductors, and wire batteries, magnetic coils, and power circuits and troubleshoot them.	10	12
2019-2020	928205	DC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic direct current (DC) electrical principles. Topics include safety, basic atomic structure and theory, magnetism, conductors, insulators, use of Ohm's law to solve for voltage, current, and resistance, electrical sources, power, inductors, and capacitors. Students will perform lockout/tagout procedures, troubleshoot circuits and analyze series, parallel, and combination DC circuits using the electrical laws and basic testing equipment to determine unknown electrical quantities. CORE	10	12
2019-2020	928206	AC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic alternating current (AC) electrical principles. Topics include basic concepts of electricity, electrical components, basic circuits, measurement instruments, the laws of alternating current, and electrical safety with lockout procedures. Hands on laboratory exercises are provided to analyze various series, parallel, and combination alternating current circuit configurations containing resistors, inductors, and capacitors. Upon course completion, students will be able to describe and explain alternating current circuit fundamentals such as RLC circuits, impedance, phase relationships, and power factors. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems. This is a CORE course.	10	12
2019-2020	928207	WIRING METHODS	This course is a study of various tasks, wiring methods, materials, and associated NEC requirements that students will be required to work with in residential and commercial wiring courses. This is a CORE course	10	12
2019-2020	928208	CONCEPTS OF DIRECT CURRENT	This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction. This course may serve as a substitute core for DC Fundamentals.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928209	CONCEPTS OF ALTERNATING CURRENT	This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits. This course may serve as a substitute core for DC Fundamentals.	10	12
2019-2020	928210	RESIDENTIAL WIRING METHODS	This course is a study of residential wiring practices and methods, the NEC requirements and residential blueprint interpretations. This is a CORE course.	10	12
2019-2020	928211	RESIDENTIAL WIRING METHODS II	This course is a study of residential wiring practices and methods, the NEC requirements and residential blueprint interpretations. This is a CORE course.	10	12
2019-2020	928212	RESIDENTIAL WIRING	This course is a study of residential wiring practices and methods, the NEC requirements and residential blueprint interpretations.	10	12
2019-2020	928213	AC/DC MACHINES	This course covers the theory and operation of DC motors single and three phase AC motors and the labs will reinforce this knowledge. Emphasis is placed on the various types of single and three phase motors, wiring diagrams, starting devices, and practical application in the lab. This is a CORE course.	10	12
2019-2020	928214	COMMERCIAL /INDUSTRIAL WIRING I	This course focuses on principles and applications of commercial and industrial wiring. Topics include, electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles. This is a CORE course.	10	12
2019-2020	928215	CONCEPTS OF SOLID STATE ELECTRONICS	This course is an introduction to semiconductor fundamentals and applications to the electronic devices. Course covers the basic operations and applications to include rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personal as well as material and environmental considerations. Upon completion students will be able to construct and test for proper operation of various types of solid state devices	10	12
2019-2020	928216	CONCEPTS OF DIGITAL ELECTRONICS	This course provides instruction in digital electronics. Topics include: number systems and codes, a review of Boolean algebra, logic elements, digital circuits, programmable logic circuits, and memory and computing circuits. This course provides laboratory exercises to analyze, construct, test and troubleshoot digital circuits.	10	12
2019-2020	928217	ADVANCED AC/DC MACHINES	This course focuses on single and three phase motors and also introduces students to DC motors. Emphasis is placed on field wiring various types of AC and DC motors, troubleshooting procedures, and utilization of test equipment. Upon completion, students should be able to explain, wire, troubleshoot, and test all types of AC and DC electric motors.	10	12
2019-2020	928218	WIRING I COMMERCIAL AND INDUSTRIAL	This course teaches students the principles and applications of commercial and industrial wiring methods. Emphasis is placed on blueprint symbols, calculations and NEC code requirements as it applies to commercial and industrial wiring. Upon completion, students will be able to read electrical plans, know most electrical symbols, load calculations for commercial industrial applications, and interpret the NEC code requirements.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928219	COMMERCIAL/INDUSTRIAL WIRING II	This course is a continuation of ELT 131 and is all inclusive. Including the study of branch circuits, installation requirements for services, feeders and special equipment considerations including the NEC code requirements. Emphasis is placed on load calculations, conductors, service sizing, installation requirements, NEC code requirements, transformers, lighting, HVAC and special equipment considerations. Upon completion, students should be able to know how to size complete electrical commercial/industrial systems and know the NEC requirements for each system.	10	12
2019-2020	928220	PRACTICUM/INTER/CO-OP	This course provides practical experience I the field early in the student's training as an electrician's helper on the job, working a special project or conducting research in a directed area of the field. Emphasis is placed on gaining hands on experience with tools of the trade as well as a better understanding of NEC directives. Upon completion, students should possess a higher state of proficiency in the basic skills of connecting electrical wiring and conduit; this course may be repeated with the instructor's permission.	10	12
2019-2020	928221	PRACTICUM/INTER/CO-OP	This course provides additional practical experience in the electrical craft as an apprentice electrician or higher level working advanced projects or research in a directed area of the field. Emphasis is placed on gaining more hands on experience with tools of the trade as well as NEC directives while studying in the classroom two hours per week. Upon completion, students should possess a higher state of proficiency in all electrician skills and a better knowledge of testing for Electrical Journeyman's Block Test.	10	12
2019-2020	928222	SPECIAL PROJECTS	This course provides additional time and or practice for the electrical technology major or a project which will enhance his/her abilities to perform required tasks. Emphasis is placed on the upgrading of the student's skills and abilities. Upon completion, students should be able to perform at a higher ability within his/her chosen field of study.	10	12
2019-2020	928223	OSHA SAFETY STANDARDS	This course provides the student with the knowledge of OSHA safety standards as required by this organization, and as it related to the job site. Emphasis is placed on overall safety practices, construction site safety practices and safety procedures required by Federal/State laws. Upon completion, students should be able to understand the requirements of OSHA as it relates to general and specific construction sites.	10	12
2019-2020	928224	MOTOR CONTROLS I	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams. This is a CORE course.	10	12
2019-2020	928225	MOTOR CONTROL II	This course covers complex ladder diagrams of motor control circuits and the uses of different motor starting techniques. Topics include wye-delta starting, part start winding, resistor starting and electronic starting devices. Upon completion, the students should be able to understand and interpret the more complex motor control diagrams and understand the different starting techniques of electrical motors.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928226	INDUSTRIAL EQUIPMENT	This course is designed to give a general overview of the different types of equipment used in large commercial and industrial facilities. Topics covered include, but are not limited to the following: motor coupling and alignment, gears and pulleys, belts and chains, basic hydraulics, basic pneumatics, and other applications. The students will learn the techniques involved with each application and, where applicable, demonstrate their abilities with practical examples.	10	12
2019-2020	928227	TRANSFORMERS	This course is designed to train the student in the theory of operation, various connections, troubleshooting, and repair of single phase as well as three phase transformers. KVA load calculations and applications will also be covered in the class. Upon completion, the student should be able to perform calculations relating to transformers, make proper Delta and WYE connections, and understand the basic polarity and voltage test for each application.	10	12
2019-2020	928228	FLUID POWER SYSTEMS	This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventive maintenance functions on hydraulic and pneumatic systems.	10	12
2019-2020	928229	ELECTRONICS FOR ELECTRICIANS	This course introduces the basic principles of solid state electronic equipment as found in many electrical and motor control circuits. Emphasis is placed on fundamental concepts of diodes, transistors, FETs and MOSFETs as they are used in electrical control circuits. Upon completion, students should be able to explain the basic operation of these solid state components and be able to perform basic troubleshooting tasks.	10	12
2019-2020	928230	SECURITY AND ALARM SYSTEMS	This course introduces the basic operation and installation of home and business security and fire alarm systems as well as low voltage (under 30v) systems such as lighting, door chimes and intercom systems. Emphasis is placed on installation of home and business security and fire alarm systems. Upon completion, students should be able to install residential and commercial security systems in accordance with code and directives.	10	12
2019-2020	928231	SMART HOUSE WIRING	This course introduces the newest technology available for Smart House wiring equipment and wiring methods to include control of whole-house electrical equipment and home entertainment produces. Emphasis is placed on specialized skills and tools required for wiring Smart Houses. Upon completion, students should be able to install special devices and automated equipment in a high-technology Smart House.	10	12
2019-2020	928232	PROGRAMMABLE CONTROLS	This state-of-the-art course includes the fundamental principles of programmable logic controls (PLC's) including hardware, programming and program design. Emphasis is placed on hardwiring associated with PLC, different options available with most PLC's basic ladder logic programming, developing working programs, timers, counters, different special functions, and designing programs from existing hardwired systems. Upon completion, students should be able to develop programs, load programs into PLC's and troubleshoot the system.	10	12
2019-2020	928233	INTRODUCTION TO PROGRAMMABLE CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928234	ADVANCED PROGRAMMABLE CONTROLLERS	This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	928235	APPLIEDPROGRAMMABLE CONTROLLERS	This state of the art course covers the more advanced topics of PLC's. Emphasis is placed on, but not limited to the following: high-speed devices, analog programming, designing complete working systems, start-up and troubleshooting techniques and special projects. Upon completion, students must demonstrate their ability by developing programs, loading programs into PLC's and troubleshooting the system if necessary.	10	12
2019-2020	928236	PLC APPLICATIONS	This course introduces advanced PLC programming techniques. Topics include tags, parallel processing, program optimization, and advanced math instructions. Emphasis is placed on optimizing PLC functions. Upon completion students will be able utilize advanced instructions to control PLC functions.	10	12
2019-2020	928237	NATIONAL ELECTRIC CODE	This course introduces the students to the National Electric Code and text and teaches the student how to find needed information within this manual. Emphasis is placed on locating and interpreting needed information within the NEC code manual. Upon completion, students should be able to locate, with the NEC code requirements for a specific electrical installation.	10	12
2019-2020	928238	JOURNEYMAN MASTER PREP EXAM	This course is designed to help prepare a student to take either the Journeyman or Master Certification Exam. Emphasis is placed on review of electrical concepts and/or principals, practice tests, and test taking procedures. Upon completion, students should be able to pass the Journeyman/Masters Certifying Exam.	10	12
2019-2020	928239	ELECTRICAL COST ESTIMATING	This course provides an in-depth study of calculating wiring materials required and labor needed by man-hours to complete a job. Emphasis is placed on how to document scope of work required, use various take-off sheets, and correct means by which to arrive at total job costs. Upon completion, students should be able to perform actual calculations of sample jobs including overhead and operating costs.	10	12
2019-2020	928240	CONDUIT BENDING AND INSTALLATION	This course provides students the knowledge to properly bend electrical metallic tubing, rigid galvanized and intermediate metal conduit, and PVC conduit. Emphasis is placed on the theory and practical application of conduit bending methods. Upon completion, students should be able to get measurements, layout, and successfully bend conduit using hand type, mechanical, and hydraulic benders.	10	12
2019-2020	928241	ELECTRICAL GROUNDING SYSTEMS	This course provides the knowledge to understand how to properly ground an electrical system. Emphasis is placed on, but not limited to the following: residential installations, commercial installations, and the function of independent grounding elements. Upon completion, the students should be able to explain and design a simple grounding system.	10	12
2019-2020	928242	INDUSTRIAL ROBOTICS	This course provides instruction in concepts and theories for the operation of robotic servo motors and power systems used with industrial robotic equipment. Emphasis is on the application of the computer to control power systems to perform work. Student competencies include understanding of the functions of hydraulic, pneumatic, and electrical power system components, ability to read and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928243	ROBOT MAINTENANCE AND TROUBLESHOOTING	This course introduces principle concepts troubleshooting and maintenance of robots. Topics include Recognize and describe major robot component. Students will learn to diagnose robot mechanical problems to the component level, replacement of mechanical components and perform adjustments, troubleshooting class 1, 2, and 3 faults, to manipulate I/O for the robot, and periodic and preventive maintenance. Students will learn how to safely power up robots for complete shutdown and how to manipulate robots using the teach pendant. Upon completion students will be able to describe the various robot classifications, characteristics, explain system operations of simple robots, and maintain robotic systems.	10	12
2019-2020	928401	PRINCIPLES OF ENGINEERING TECHNOLOGY	This course provides students with principals of Engineering Technology. Topics include fluid power, control systems, materials, manufacturing processes, statics, kinematics, and statistics. Upon completion of this course, the student will possess a clear understanding of basic engineering technology principles.	10	12
2019-2020	928402	TECHNICAL WRITING	This course provides instruction in the production of technical and/or scientific reports. Emphasis is placed on the ability to create, assimilate, and convey technical material in a concise and effective manner. Students will demonstrate the ability to produce a written technical or scientific report by following the prescribed process and format.	10	12
2019-2020	928403	BASIC COMPUTER-AIDED DRAFTING	Introduction to computer-aided drafting (CAD). Topics include a review of multi-view projection, and introduction to the CAD program, zooming, snapping, coordinate schemes, copying, moving, plotting, layers, trimming, breaking, blocking, inserting, and dimensioning. Upon completion of this course a student will be able to draw and dimension the views which are necessary for a clear and complete description of a rectilinear object using two-dimensional microcomputer techniques.	10	12
2019-2020	928404	MECHANICAL DRAWING	This course covers the basic principles and practices in mechanic drafting/design incorporating computer-aided drafting equipment. The use of proper lines, dimensions, and notations are covered in regard to multi-view orthographic drawings. Students will be expected to draw the proper views of objects using computer-aided drafting software.	10	12
2019-2020	928405	ADVANCED COMPUTER AIDED DRAFTING	Continuation of MET 201. Topics include dimensioning, reflecting, polygons, arrays, utilities, sectioning, hatching, arcs, isometrics, rotating, attributes, filing, and enhanced lines. Upon completion of this course a student will be able to draw and dimension isometric views, sectional views, and other views as necessary to clearly and completely describe an object using two-dimensional microcomputer techniques.	10	12
2019-2020	928406	SECTION AND AUXILIARY VIEWS	This course is a study of various sectional views of multi-view drawings and inclined surface projection. Topics include types of sectional views, foreshortened views, secondary and primary auxiliary views. Upon course completion, students should be able to operate applicable drawings.	10	12
2019-2020	928407	APPLIED STATICS	This course is concerned with the analysis of loads (force and torque, or “moment”) on physical systems in static equilibrium. Upon completion of this course, the student should be able to identify forces, make free body diagrams, and calculate moments of inertia as well as stress and strain in a static system.	10	12
2019-2020	928408	CONTINUOUS IMPROVEMENT TECHNIQUES	This course introduces the problem solving process and problem solving tools such as Pareto charts, flow charts, brainstorming, histograms, cause and effect diagrams, simple graphical methods, and diagnostic graphing techniques. A basic plan-do-study-act cycle which instills system alignment and system improvement concepts is used as the course framework and benchmarking and practical applications of root cause analysis will be introduced. Upon completion, students should be able to apply several problem solving tools.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928409	QUALITY PRACTICES AND APPLICATION	This course provides an overview of Total Quality Management (TQM) and its application to the workplace. Included is a discussion of the history of TQM, problem solving tools, developing and managing effective teams, leadership skills, elements of empowerment, and commitment to quality. Upon completion, the student should be able to work through exercises demonstrating the concepts of Total Quality Management.	10	12
2019-2020	928410	SEMINAR IN QUALITY TECHNOLOGY	This course is designed to cover topics of current interest in the area of quality. Topics include such areas of current interest as ethics, current industry standards, software, and other timely topics of concern. Upon completion, the student should be aware of the topics of current interest and concern in the area of quality.	10	12
2019-2020	928411	CAD FOR ELECTRONICS	This course introduces the principles of CAD as relates to electronic drawings. Emphasis is placed on electronic schematic diagrams. Upon course completion, students should be able to create electronic schematic diagrams using CAD software.	10	12
2019-2020	928412	ADVANCED AUTOCAD CAD	In this course, students use advanced techniques of AutoCAD computer-aided drafting/design software to develop and render 3-D solids. Topics include 3-D drafting techniques, specialized software applications, development of views, rendering, and plotting. The student will be able to develop the views necessary to fabricate an object using the solid applications of AutoCAD	10	12
2019-2020	928413	ARCHITECTURAL DRAWING	This course covers the basics of architectural drawings related to residential and small commercial applications using computer-aided drafting equipment. Topics covered will be basic floor plans, light construction methods and materials, roofs, stair construction, layout, utilities, windows, doors, wall, and necessary detail drawings. The student will be expected to make basic architectural drawings using computer-aided software.	10	12
2019-2020	928414	INDUSTRIAL DRAWING	This specialty course covers legal and ethical practices of architectural and construction firms. Topics include construction estimates, site plans, structural drawings, and specifications. Upon course completion, students should be able to complete basic industrial drafting projects using CAD.	10	12
2019-2020	928415	MACHINE DESIGN	This course covers the design concepts necessary to develop the technical drawings and features to manufacture or fabricate a part or assembly using computer-aided design/drafting software. The topics covered are the concepts and design constraints of gears, drive systems, bearings, belts, shafts, chains, fasteners, and springs. The student will be expected to apply the concepts and design constraints to properly design machine components and systems.	10	12
2019-2020	928416	PROCESS TECHNOLOGY SYSTEMS	This course is a study of the interrelations of process equipment and process systems. Students will be able to arrange process equipment into systems; describe the purpose and function of specific process systems, explain how factors affecting process systems are controlled under normal conditions, and recognize abnormal process conditions. Students are also introduced to the concept of system process control manufacturing plant process economics.	10	12
2019-2020	928417	INDUSTRIAL QUALITY & PRODUCTIVITY	This course provides an overview of various quality and productivity management methods and their application to the workplace. Included is a discussion of the history of TQM, problem solving tools, Lean Manufacturing, Six Sigma, and ISO 9000.	10	12
2019-2020	928418	INTRODUCTION TO PROJECT MANAGEMENT	This course is an introduction to project management tools and techniques used to schedule and track a major project. Critical Path Method of scheduling will be used in Gantt chart scheduling. Students will learn techniques of scheduling, communication, assigning resources, and tracking progress. The latest scheduling software will be used to enable them to implement successful project management.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928419	MATERIALS SELECTION	This course provides theory in the evaluation and selection of materials for the Engineering Technician. Topics include mechanical properties, strength properties, thermal properties, electrical properties, chemical compatibility, and criteria for selection and evaluation of various materials. Upon completion of this class students will be able to select appropriate materials for various applications.	10	12
2019-2020	928420	APPLIED THERMODYNAMICS	An introduction to thermal mechanics. Topics include thermal energy, the first law of thermodynamics, the second law of thermodynamics, thermal cycles, and heat transfer. Upon completion of this course a student will be able to solve for a single unknown thermal variable.	10	12
2019-2020	928421	MACHINE DESIGN	An introduction to the design of machine elements as assemblies. Topics include a review of mechanical stress, variable loads, shafting, bearings, transmissions, CAMS, and springs. Upon completion of this course a student will be able to design a simple machine.	10	12
2019-2020	928422	APPLIED STRENGTH OF MATERIALS	This course teaches methods of calculating stresses in structural members, such as beams, columns and shafts. Upon completion of this course, the student should be able to design shafts, beams, and columns for simple force systems.	10	12
2019-2020	928423	ADVANCED STUDIES IN ENGINEERING TECHNOLOGY	This course allows students to study topics in depth and apply skills and knowledge to practical situations relevant to engineering technology.	10	12
2019-2020	928424	ADVANCED STUDIES IN ENGINEERING TECHNOLOGY	This course allows students to study topics in depth and apply skills and knowledge to practical situations relevant to engineering technology.	10	12
2019-2020	928425	INTERNSHIP	This course involves the development of job skills by providing the student with a structured employment situation that is directly related to, and coordinated with, the educational program. Student activity in internship is planned and coordinated jointly by an institutional representative and the employer, with the employer having the responsibility for control and supervision of the student on the job. Work is normally completed in the learning environment, but may include out-of-class assignments.	10	12
2019-2020	928601	DC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic direct current (DC) electrical principles. Topics include safety, basic atomic structure and theory, magnetism, conductors, insulators, use of Ohm's law to solve for voltage, current, and resistance, electrical sources, power, inductors, and capacitors. Students will perform lockout/tagout procedures, troubleshoot circuits and analyze series, parallel, and combination DC circuits using the electrical laws and basic testing equipment to determine unknown electrical quantities	10	12
2019-2020	928602	AC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic alternating current (AC) electrical principles. Topics include basic concepts of electricity, electrical components, basic circuits, measurement instruments, the laws of alternating current, and electrical safety with lockout procedures. Hands on laboratory exercises are provided to analyze various series, parallel, and combination alternating current circuit configurations containing resistors, inductors, and capacitors. Upon course completion, students will be able to describe and explain alternating current circuit fundamentals such as RLC circuits, impedance, phase relationships, and power factors. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems. This is a CORE course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928603	SOLID STATE FUNDAMENTALS	This course provides instruction in basic solid state theory beginning with atomic structure and including devices such as diodes, bipolar transistors, field effect transistors, amplifiers, thyristors, operational amplifiers, oscillator and power supply circuits. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits. This course also provides the opportunity for students to apply the solid-state principles and theories learned in class in the laboratory setting. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits. This is a CORE course.	10	12
2019-2020	928604	DIGITAL FUNDAMENTALS	This course provides instruction on basic logic gates, flip-flops, registers, counters, microprocessor/computer fundamentals, analog to digital conversion, and digital analog conversion. Emphasis is placed on number systems, Boolean algebra, combination logic circuits, sequential logic circuits, and typical microprocessor data manipulation and storage. This course also has an embedded lab with exercises designed to develop skills required by industry. Upon completion, students should be able to analyze digital circuits, draw timing diagrams, determine output of combinational and sequential logic circuits and diagnose and troubleshoot electronic components as well as demonstrate knowledge of microprocessor and computer circuits. This is a CORE course.	10	12
2019-2020	928605	ELECTRONIC CIRCUITS I	This course covers the commonly utilized circuits found in all areas of electronics. These include the various rectifier, filter, voltage regulating circuits, and linear solid-state amplifier circuits. The entire course emphasizes the typical circuits, their principles of operation, and troubleshooting defective circuits. This course has an embedded lab with laboratory exercises designed to develop the skills listed in the Industry competencies.	10	12
2019-2020	928606	CIRCUIT FABRICATION I	This course provides instruction in fabrication of functional circuits and is an introduction to device construction and fabrication. Utilizing discrete components, students will fabricate functional circuits. Topics include soldering, cable construction, coaxial cable connection and termination, component mounting, cases, and chassis, printed circuit board design, layout, fabrication, and repair, as well as soldering techniques, care of tools, wire splicing, wire wrapping, connector maintenance, and related shop safety. Upon completion of this course, students should be able to perform basic circuit and project construction.	10	12
2019-2020	928607	ELECTRICAL BLUEPRINT READING I	This course will enable the student to obtain to a working knowledge of the elements of blueprint reading; the ability to interpret electrical, mechanical, and architectural drawing; and the ability to visualize the entire building structure in relationship to the electrical system. This is a CORE course.	10	12
2019-2020	928608	MOTOR CONTROLS I	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928609	CONCEPTS OF DIRECT CURRENT	This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction. This course may serve as a substitute core for DC Fundamentals.	10	12
2019-2020	928610	CONCEPTS OF ALTERNATING CURRENT	This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits. This course may serve as a substitute core for AC Fundamentals.	10	12
2019-2020	928611	CONCEPTS OF SOLID STATE ELECTRONICS	This course is an introduction to semiconductor fundamentals and applications to the electronic devices. Course covers the basic operations and applications to include rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personal as well as material and environmental considerations. Upon completion students will be able to construct and test for proper operation of various types of solid state devices.	10	12
2019-2020	928612	CONCEPTS OF DIGITAL ELECTRONICS	This course provides instruction in digital electronics. Topics include: number systems and codes, a review of Boolean algebra, logic elements, digital circuits, programmable logic circuits, and memory and computing circuits. This course provides laboratory exercises to analyze, construct, test and troubleshoot digital circuits.	10	12
2019-2020	928613	CONCEPTS OF ELECTRONIC CIRCUITS	This course covers the commonly utilized circuits found in all areas of electronics. These include various rectifiers, filters, voltage regulating circuits, operational amplifier circuits, ICs, and oscillator circuits. Upon completion students will be able to construct and test various types of electronic circuits.	10	12
2019-2020	928614	MICROCOMPUTER SYSTEMS AND APPLICATION	This course includes the study of primary storage, secondary storage devices, input and output operations. Special emphasis is placed on operating systems, installation, A+ certification, setup and function. Upon completion, the student will demonstrate an understanding of system software, function, and utilization of computer hardware.	10	12
2019-2020	928615	MICROCOMPUTER SYSTEM PRINCIPLES	This course is a fundamental study of installation, identification of systems and sub-systems, upgrades, maintenance, program writing with emphasis on system testing, A+ certification and the use of diagnostic software. Topics include networking concepts, sharing devices across a network, and utilization of microprocessors. Upon completion, the student will demonstrate an understanding of computer systems and concepts.	10	12
2019-2020	928801	INTRODUCTION TO OCCUPATIONAL SAFETY AND HEALTH	This course provides an overview of the field of occupational safety and health technology. Topics include an overview of OSHA regulations, origins of occupational safety and health standards, safety and health process design, safety and health technology and managing safety processes. Upon completion the student should be able to demonstrate occupational safety and health knowledge.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	928802	ENVIRONMENTAL HEALTH AND SAFETY ASSESSMENTS AND REPORTING	This course focuses on procedures in conducting environmental audits, legal issues, typical auditing problems, audit protocol, managing and critiquing an audit program, and dealing with small businesses during audit program. Emphasis is on problem areas in the workplace setting where potential violations of federal, state, and local laws could cause severe damage to an industry or company. Upon course completion, students should be able to conduct environmental site assessments.	10	12
2019-2020	928803	INTRODUCTION TO ENVIRONMENTAL LAWS AND REGULATIONS	This course provides an overview of current federal laws and regulations that relate to the environment. Topics include laws and regulations relating to air, land, and water, such as the Clean Air Act, Clean Water Act, RCRA, Toxic Substance Control Act, the Federal Pesticide Acts, OSHA, CERCLA, and SARA. Information on Alabama specific law regulation by the Alabama Department of Environmental Management (ADEM) and obtaining permits is also presented. Upon completion the student should be able to explain methods and strategies to ensure regulatory compliance.	10	12
2019-2020	928804	ENVIRONMENTAL INTERNSHIP I	This course will provide work experience designed to familiarize students with the application of environmental technology principles. Efforts will be made to place students in an area which supports their career goals. Upon course completion, students should have gained experience as an environmental technician.	10	12
2019-2020	928805	ENVIRONMENTAL SAMPLING AND ANALYSIS	This course is designed to introduce students to the theory and practical methodology of the analysis of significant inorganic substances in different environmental sample matrices. Topics include sample acquisition, preservation, preparation, analysis and documentation according to approved EPA methods and guidelines. Quality assurance and quality control requirements will be stressed. Field and laboratory exercises will be completed to determine the composition for several selected inorganic substances. Upon completion students should be able to perform environmental sampling and analysis.	10	12
2019-2020	928806	TOXICOLOGY	This course is designed to familiarize students with acute and chronic health effects due to exposure with hazardous materials. Topics covered in this course include review of human physiology and recognition of physiological effects of toxic agents, concepts of TLV and LD, use of medical technology, modes of contact and entry of toxic agents, dose, time, and concentration effects, recognition of toxic agents, occupational diseases, and epidemiology. Upon completion students will understand the effects of exposure to hazardous materials on the human body.	10	12
2019-2020	928807	HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE	This course is an overview of emergency planning techniques for hazardous materials spills. Topics include the coordination and implementation of emergency response procedures, and first aid and CPR. Upon completion students will be able to design and/or evaluate emergency response plans.	10	12
2019-2020	928808	INTRODUCTION TO INDUSTRIAL HYGIENE	This course focuses on laboratory and plant hazards. Topics include sampling techniques, hazard evaluation, control of airborne contaminants, ventilation, filter preparation and sampling, air quality, respiratory diseases, and the use of appropriate laboratory and safety equipment. Upon completion students will have a thorough knowledge of all areas of industrial safety.	10	12
2019-2020	928809	HAZARDOUS MATERIALS MANAGEMENT	This course focuses on methods of hazardous waste minimization, recovery, destruction, and disposal. Topics include conservation, recycling, and safe disposal techniques for any hazardous material. Upon completion students should be able to explain MSDS sheets and explain processes to minimize waste creation.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929001	PRINCIPLES OF AQUACULTURE	This course is an introduction to limnology and aquaculture including an examination of its origin and history, basic principles, and current trends. Students will study topics such as environmental concepts, biological fundamentals of aquatic plants and animals, water management, growing of aquacrops, and aquabusiness management. Upon completion, students should be familiar with the aquaculture industry, aquatic environments and organisms.	10	12
2019-2020	929002	WATER CHEMISTRY FOR AQUACULTURE	This course introduces students to those aspects of water quality considered most important to the aquaculturist including dissolved oxygen, pH, alkalinity, water hardness, and salinity. Students will study topics such as the importance of water quality, the effects of environment on water quality, and ways of monitoring and maintaining water quality. Upon completion, students should be familiar with field and laboratory techniques involved in the collection, analysis, and reporting of data using water quality instrumentation.	10	12
2019-2020	929003	BIOLOGY AND DESEASES OF AQUACULTURE SPECIES	This course introduces students to the general biology and diseases of commercially important finfish and crustacean species. Students will study topics such as anatomy, physiology, nutrition, and reproduction in normal fish or crustaceans and in animals infected with disease agents such as bacteria, viruses, or protozoans. Upon completion, students should be able to diagnose sick aquatic organisms, identify the disease causing pathogens, and be able to treat or prevent further disease problems.	10	12
2019-2020	929004	AQUACULTURE HATCHERY/POND MANAGEMENT	This course is an introduction to contemporary hatchery and pond management issues. Students will study topics such as breeding strategies for indoor culture, system designs for indoor culture, fry and fingerling production, harvesting, and processing. Upon completion, students should be able to culture various commercially important species to completion such as channel catfish, tilapia, and freshwater shrimp.	10	12
2019-2020	929005	AQUACULTURE PRACTICUM I	This course provides students the opportunity to apply previously-learned aquaculture techniques in a functional setting. Upon completion, students should have refined their job skills necessary to compete in today's aquaculture industry.	10	12
2019-2020	929006	AQUACULTURE PRACTICUM II	This course provides students the opportunity to apply previously-learned aquaculture techniques in a professional, off sight setting. Upon completion, students should have refined their job skills necessary to compete in today's aquaculture industry.	10	12
2019-2020	929201	PRIVATE GROUND	This course provides a study of aviation subjects required to prepare the student for safe and competent operations as a Private Pilot. Topics include aircraft aerodynamics and principles of flight, systems, performance, regulations, weather, airspace, publications, Visual Flight Rules (VFR) navigation, aeromedical factors, and safety. Upon completion, students should be able to apply the knowledge learned to aircraft operations and be able to successfully complete the Federal Aviation Administration (FAA) Private Pilot Knowledge Test.	10	12
2019-2020	929202	PROFESSIONAL PILOT, AIRPLANE LABORATORY 1	This course is a laboratory to impart the aeronautical skill and experience required for certification as a Private Pilot. Included is preflight and post-flight training to enhance the introduction, practice, and mastery of flight maneuvers and procedures associated with the training requirements for the Private Pilot Certificate. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for satisfactory completion of Lessons 1 through 10 of the approved Private Pilot Syllabus.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929203	COMMERCIAL GROUND	This course provides a study of aviation subjects required to prepare the student for safe and competent operations as a Commercial Pilot. Topics include aircraft aerodynamics and principles of flight, systems, performance, regulations, weather, airspace, publications, Visual Flight Rules (VFR) navigation, aeromedical factors, and safety. Upon completion, students should be able to apply knowledge learned to aircraft operations and to be able to successfully complete the Federal Aviation Administration (FAA) Commercial Pilot Knowledge Test. CORE	10	12
2019-2020	929204	PROFESSIONAL PILOT, AIRPLANE LABORATORY 2	This laboratory is designed to increase knowledge and experience required for certification as a Private Pilot. Upon completion, students will demonstrate through successful accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 11 through 15 of the FAA approved Private Pilot airplane syllabus.	10	12
2019-2020	929205	PROFESSIONAL PILOT, AIRPLANE LABORATORY 3	This laboratory is designed to increase knowledge and experience required for certification as a Private Pilot. Upon completion, students will demonstrate through successful accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 16 through 20 of the FAA approved Private Pilot Airplane syllabus.	10	12
2019-2020	929206	PROFESSIONAL PILOT, AIRPLANE LABORATORY 4	This laboratory is designed to increase knowledge and experience required for certification as a Private Pilot. Upon completion, students will demonstrate through successful accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 21 through 26 of the FAA approved Private Pilot Airplane syllabus. Students must earn the FAA Private Pilot certificate for satisfactory completion of this course.	10	12
2019-2020	929207	PROFESSIONAL PILOT, AIRPLANE LABORATORY 5	This laboratory will introduce the student to the precise aircraft attitude control by instrument reference, both full and partial panel. This laboratory will be complete when the student can demonstrate all IFR maneuvers and procedures at the proficiency level of an instrument rated pilot, as outlined in the current FAA Instrument Rating Practical Test Standards for lessons 1 through 7 of the FAA approved Instrument/Commercial Airplane syllabus.	10	12
2019-2020	929208	PROFESSIONAL PILOT, AIRPLANE LABORATORY 6	This laboratory will introduce the student to the precise aircraft attitude control by instrument reference, both full and partial panel. Holding patterns and instrument approaches will be taught during this lab. This laboratory will be complete when the student can demonstrate all IFR maneuvers and procedures at the proficiency level of an instrument rated pilot, as outlined in the current FAA Instrument Rating Practical Test Standards for lessons 8 through 16 of the FAA approved Instrument/Commercial Airplane syllabus.	10	12
2019-2020	929209	PROFESSIONAL PILOT, AIRPLANE LABORATORY 7	This laboratory will introduce the student to the precise aircraft attitude control by instrument reference, both full and partial panel. Holding patterns, instrument approaches and IFR cross-country procedures will also be taught during this lab. This laboratory will be complete when the student can demonstrate all IFR maneuvers and procedures at the proficiency level of an instrument rated pilot, as outlined in the current FAA Instrument Rating Practical Test Standards for lessons 17 through 23 of the FAA approved Instrument/Commercial Airplane syllabus.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929210	PROFESSIONAL PILOT, AIRPLANE LABORATORY 8	This laboratory will introduce the student to the precise aircraft attitude control by instrument reference, both full and partial panel. Holding patterns, instrument approaches and IFR cross-country procedures will also be taught during this lab. This laboratory will be complete when the student can demonstrate all IFR maneuvers and procedures at the proficiency level of an instrument rated pilot, as outlined in the current FAA Instrument Rating Practical Test Standards for lessons 24 through 29 of the FAA approved Instrument/Commercial Airplane syllabus. Students must earn the FAA Instrument Rating Airplane for satisfactory completion of this course.	10	12
2019-2020	929211	PROFESSIONAL PILOT, HELICOPTER LABORATORY 1	This course is a laboratory to impart the aeronautical skill and experience required for certification as a Private Pilot. In this stage the primary maneuvers will be introduced, practiced and reviewed. The student will practice airport and helicopter operations, different types of takeoff and landings, and emergency procedures. During this stage, the student must complete the pre-solo written exam, and the knowledge, skill and habit patterns needed for solo flight. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for satisfactory completion of lessons 1 through 10 of the FAA approved Private Pilot Helicopter syllabus.	10	12
2019-2020	929212	PROFESSIONAL PILOT, HELICOPTER LABORATORY 2	This course allows the student to expand the skills learned in the previous FLT 200. Introduction of maximum performance takeoffs and climbs, steep approaches, running/roll landings, and slope operations prepare the student for conducting flights at a variety of airports and heliports. Through discussion sessions, the student will gain insight into emergency situations including retreating blade stall, dynamic rollover, ground resonance, low G conditions, and low r.p.m. and blade stall. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for satisfactory completion of lessons 11 through 22 of the FAA approved Private Pilot Helicopter syllabus.	10	12
2019-2020	929213	PROFESSIONAL PILOT, HELICOPTER LABORATORY 3	During this course, the student will learn to conduct cross-country flights using pilotage, dead-reckoning, and radio navigation. In addition, the student will learn how to conduct night operations safely. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for satisfactory completion of lessons 23 through 26 of the FAA approved Private Pilot Helicopter syllabus. This stage is complete when the student can accurately plan and conduct cross-country and night flights.	10	12
2019-2020	929214	PROFESSIONAL PILOT, HELICOPTER LABORATORY 4	This course is designed to increase knowledge and experience required for certification as a Private Helicopter Pilot through completion of Private Pilot Certification requirements. This stage provides the necessary information, knowledge, and skills so the student may safely conduct solo cross-country operations. The student also will be introduced to night operations, including a night cross-country flight. Upon completion, students will have achieved certification as a private pilot and will demonstrate through successful accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 27 through 31 of the FAA approved Private Pilot Helicopter syllabus. Students must earn the FAA Private Pilot Helicopter Certificate for satisfactory completion of this course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929215	PROFESSIONAL PILOT, HELICOPTER LABORATORY 5	This laboratory is designed to increase knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures required for Private Pilot certification with emphasis placed on student performance of these maneuvers to commercial pilot proficiency students. The student will also be introduced to several additional maneuvers required for commercial pilot certification, including 180 degree auto rotations, confined area operations, and pinnacle/platform operations. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 1 through 10 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929216	PROFESSIONAL PILOT, HELICOPTER LABORATORY 6	This laboratory is designed to increase knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures. This stage allows the student to expand the skills learned in the previous stage and increase proficiency in cross-country and night flight operations. Upon completion, the student will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 11 through 21 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929217	PROFESSIONAL PILOT, HELICOPTER LABORATORY 7	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 22 through 29 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929218	PROFESSIONAL PILOT, HELICOPTER LABORATORY 8	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 30 through 31 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929219	PROFESSIONAL PILOT, HELICOPTER LABORATORY 9	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 32 through 33 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929220	PROFESSIONAL PILOT, HELICOPTER LABORATORY 10	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 34 through 38 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929221	PROFESSIONAL PILOT, HELICOPTER LABORATORY 11	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 39 through 42 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929222	PROFESSIONAL PILOT, HELICOPTER LABORATORY 12	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 43 through 48 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929223	PROFESSIONAL PILOT, HELICOPTER LABORATORY 13	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 49 through 51 of the FAA approved Commercial Pilot Helicopter syllabus.	10	12
2019-2020	929224	PROFESSIONAL PILOT, HELICOPTER LABORATORY 14	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Helicopter Pilot through a review of previously learned maneuvers and procedures and completion of Commercial Pilot certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 52 through 60 of the FAA approved Commercial Pilot Helicopter syllabus. The student must earn the FAA Commercial Pilot Helicopter Certificate for satisfactory completion of this course.	10	12
2019-2020	929225	PROFESSIONAL PILOT, AIRPLANE LABORATORY 9	This laboratory is designed to increase knowledge and experience required for certification as a Commercial Pilot, by broadening the student's knowledge of VFR cross-country and night operations, and providing the skills necessary to operate safely in the night environment and during extended cross-country flights. Upon completion, the student will demonstrate the complete and accurate planning of VFR cross-country flights and safe conduct of these flights using pilotage, dead reckoning, and navigation systems. In addition, the student must demonstrate safe night flight operations. Students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed FAA practical test standards for lessons 30 through 37 of the approved commercial syllabus	10	12
2019-2020	929226	INSTRUMENT GROUND	This course provides a study of aviation subjects required to prepare the student for safe and competent operations as an Instrument Pilot. Topics include aircraft instrument systems, the use of instruments as the primary reference for flight operations, instrument cross-country flights, and instrument approach procedures. Upon completion, students should be able to apply the knowledge learned to instrument aircraft operation and to successfully complete the Federal Aviation Administration (FAA) Instrument Pilot Knowledge Test. CORE	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929227	PROFESSIONAL PILOT, AIRPLANE LABORATORY 10	This laboratory is designed to increase knowledge and experiences required for certification as a Commercial Pilot by broadening the student's knowledge of VFR cross-country and night operations, and providing the skills necessary to operate safely in the night environment and during extended cross-country flights. Upon completion, the student will demonstrate the complete and accurate planning of VFR cross-country flights and safe conduct of these flights using pilotage, dead reckoning, and navigation systems. In addition, the student must demonstrate safe night flight operations. Students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed FAA practical test standards for lessons 38 through 44 of the approved instrument/commercial airplane syllabus.	10	12
2019-2020	929228	PROFESSIONAL PILOT, AIRPLANE LABORATORY 11	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Pilot through a review of previously learned maneuvers and procedures and completion of complex aircraft certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 45 through 53 of the FAA approved Instrument/Commercial Airplane syllabus.	10	12
2019-2020	929229	PROFESSIONAL PILOT, AIRPLANE LABORATORY 12	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Pilot through review of previously learned maneuvers and procedures and completion of complex aircraft certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 54 through 67 of the FAA approved Instrument/Commercial Airplane syllabus.	10	12
2019-2020	929230	PROFESSIONAL PILOT, AIRPLANE LABORATORY 13	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Pilot through review of previously learned maneuvers and procedures and completion of complex aircraft certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 68 through 77 of the FAA approved Instrument/Commercial Airplane syllabus.	10	12
2019-2020	929231	PROFESSIONAL PILOT, AIRPLANE LABORATORY 14	This laboratory is designed to complete the knowledge and experience required for certification as a Commercial Pilot through review of previously learned maneuvers and procedures and completion of complex aircraft certification requirements. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for lessons 78 through 87 of the FAA approved Instrument/Commercial Airplane syllabus. Students must earn the FAA Commercial Certification for satisfactory completion of this course.	10	12
2019-2020	929232	FUNDAMENTALS OF INSTRUCTION GROUND	This course provides an introduction to basic concepts of psychology and the educational psychology pertinent to flying and the flight instructor/flight student relationship. Included are the learning process, elements of effective teaching, student evaluation and testing, course development, lesson planning, and classroom instructing techniques. Upon completion, students will have knowledge of the instructor/student interface and be able to successfully complete the Federal Aviation Administration (FAA) Fundamentals of Instruction Knowledge Test	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929233	INSTRUCTOR METHODS OF ORAL PRESENTATION	This course prepares the student for the oral examination portion of the flight instructor practical examination as required for initial flight instructor certification. Included are various techniques for oral instruction as well as a review to ensure a sound knowledge of flight operations. Upon completion, students will be able to conduct oral instruction to the standards required by the Federal Aviation Administration (FAA) Flight Instructor Practical Test Standards.	10	12
2019-2020	929234	FLIGHT INSTRUCTOR GROUND	This course provides a study of aviation subjects required to prepare the student for the technical knowledge required to become an Airplane or Helicopter Flight Instructor. Topics include the airspace system, weather, regulations, radio navigation systems, aircraft performance, aircraft instruments and instrument flying, instrument charts, Air Traffic Control (ATC) procedures and communications and instrument decision making. Upon completion, students should have sufficient knowledge to teach this subject in the classroom and the aircraft and to successfully complete the Federal Aviation Administration (FAA) Flight Instructor Airplane or Helicopter Knowledge Test.	10	12
2019-2020	929235	CONVENTIONAL GEAR LABORATORY	This course is a laboratory to impart the aeronautical skill and experience required for a tailwheel airplane endorsement as required by Federal Aviation Regulation (FAR) Part 61.31(i). Included are preflight and postflight training to enhance the introduction, practice and mastery of flight maneuvers, and procedures associated with the operation of tailwheel airplanes. Upon completion, students will demonstrate competence in normal and crosswind takeoffs and landings, wheel landings, and go-around procedures in a tailwheel airplane sufficient to earn the tailwheel airplane endorsement.	10	12
2019-2020	929236	MULTI-ENGINE CERTIFICATION COURSE	This course provides a study of aviation subjects required to prepare the student for Multi-Engine certification and provides a laboratory to impart the aeronautical skill and experience required for award of the Multi-Engine rating. Included are preflight and postflight training to enhance the introduction, practice and mastery of flight maneuvers, and procedures associated with the operation of Multi-Engine airplanes. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed Federal Aviation Administration (FAA) practical test standards for the FAA Commercial Pilot Certificate, Multi-Engine Airplane.	10	12
2019-2020	929237	FLIGHT INSTRUCTOR, INITIAL ISSUANCE	This laboratory is designed to complete the knowledge and experience required for initial certification as a Flight Instructor through a review of previously learned maneuvers and procedures and practice teaching of required maneuvers. Included are a review of all required private and commercial flight maneuvers and procedures correlated with instructional procedures, regulations, aerodynamics, and practice flight and ground instruction. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed FAA practical test standards for initial issuance of an initial FAA Flight Instructor Certificate.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929238	FLIGHT INSTRUCTOR, ADDITIONAL RATING	This laboratory is designed to impart the knowledge and experience required for additional certification as a Flight Instructor through a review of previously learned maneuvers and procedures and practice teaching of required maneuvers. Included are reviews of all required flight maneuvers and procedures specified by the appropriate FAA practical test standards correlated with instructional procedures, regulations, aerodynamics, and practice flight and ground instruction. Upon completion, students will demonstrate through flight tests and successfully accumulated flight experience that they meet or exceed appropriate FAA practical test standards for issuance of an additional FAA Flight Instructor Rating.	10	12
2019-2020	929401	INTRODUCTION TO FORESTRY	This course provides a historical overview of forestry and forestry practices. Emphasis is placed on forest policies, career opportunities, basic silvicultural and mensurational practices and forest protection. The student should be able to make basic tree measurements, identify local tree species, and recognize best management practices in Alabama.	10	12
2019-2020	929402	CARTOGRAPHY	This course focuses on mapping as related to the forestry industry. Topics include county soil surveys, Public Land Survey System, map symbols, scales, declination, and use of staff compass, steel tape, and Abney level. Upon completion, students should have a working knowledge of maps and basic surveying techniques to include GPS and basic GIS applications.	10	12
2019-2020	929403	TIMBER HARVESTING	This course is a study of timber harvesting methods and equipment. Emphasis is placed on harvesting methods, laws and environmental regulations. Upon completion, students should be able to demonstrate a basic knowledge of timber harvesting, and best management practices to include a general knowledge of sustainable forestry initiatives.	10	12
2019-2020	929404	FORESTRY MATHEMATICS	This course covers basic mathematical concepts relative to future forestry courses. Topics included are ratios, percentages, functions, linear equations, graphing, trigonometric functions, finance and basic statistics. Upon completion, students should be able to apply basic finance and statistical principles to forestry problems, interpret graphical data, and set up and solve ration and proportion problems.	10	12
2019-2020	929405	DENDROLOGY	This course includes the field identification and study of scientific names, common names, tree growth habits, principal botanical features, and natural ranges of regionally-important trees. Topics include botanical terms, botanical features, species/site relationships, growth habits, common and scientific names, and dichotomous keys. Upon completion of this course, the student should be able to identify approximately 100 trees and shrubs, describe range and habitats for trees, and identify trees by scientific, family, and common names.	10	12
2019-2020	929406	SILVICULTURE	This course is an introduction to silvicultural practices in the United States, especially those used in the southeastern United States. Emphasis is placed on regeneration methods and intermediate treatments of southern pines and hardwoods. Upon completion, students should be familiar with even-aged and uneven-aged regeneration methods, nursery operations, intermediate cuttings, planting, seedling care, competition control, and stocking levels related to southern pine and hardwood species.	10	12
2019-2020	929407	FORESTRY RESEARCH AND MANAGEMENT	This course provides an overview of current research and forest management practices that occur in the local area. Emphasis is placed on tree species and common forest management practices in the southeast. Upon completion, students should be able to recognize current site preparation, cutting practices, and silvicultural practices used in the southeastern United States and have a general knowledge of seed orchard and nursery operations.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929408	FOREST MANAGEMENT PRACTICES	This course deals with the preparation of written forest management plans. Topics include stand mapping, timber inventory, stand descriptions and recommendations, and the planning of silvicultural activities to assist the landowner in meeting his/her objectives.	10	12
2019-2020	929409	FOREST FIRE CONTROL/USE	This is a study of forest fire behavior, wildfire suppression, control organizations, and the use of fire as a forest management tool. Topics include types of fire, benefits of fire, fire adapted ecosystems, prescribed fire techniques, wildfire control, smoke management, and fire plan preparation. Upon completion of this course the student should be able to identify fuel types, estimate fuel volume, demonstrate the use of forest firefighting equipment, develop a burning plan and be familiar with weather conditions and how they influence fire behavior	10	12
2019-2020	929410	FOREST MENSURATION	This course is a study of basic forest measurements. Topics include public land subdivision, cubic volume, board feet, volume tables, specialty products, simple statistics, and plot, strip, and variable timber cruising methods. Upon completion, students should be able to locate property based on legal descriptions, select appropriate volume tables for specific product classes, and summarize field data using either fixed area or variable plot data.	10	12
2019-2020	929411	ADVANCED FOREST MENSURATION	This course is designed to improve the cruising skills of the students. Emphasis is placed on line-plot, strip and variable plot cruising methods. Upon completion, students should be able to establish base lines, run offsets, map, collect and summarize field data, and construct stands and stock tables.	10	12
2019-2020	929412	FOREST ENTOMOLOGY AND PATHOLOGY	This course provides the student with basic knowledge of forest insects and diseases. Emphasis is placed on identification, life cycles, damage, and control of major forest insects and disease pests of the southeastern United States. Upon completion, students should be able to identify major forest insects and diseases including life cycles and damage to host plants.	10	12
2019-2020	929601	ORIENTATION TO THE HOSPITALITY PROFESSION	This course introduces various facets and opportunities within the hospitality profession. The intent is for students to gain a broad base of information relative to the hospitality industry. Emphasis is placed on having students comprehend their role as a hospitality industry professional. Topics include an overview of the hospitality profession, knowledge and skills necessary for successful employment, the impact of the hospitality profession on society, issues that impact on various segments of the hospitality profession, and emerging trends. This is a core course.	10	12
2019-2020	929602	BASIC FOOD PREPARATION	In this course students acquire fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. This course is CORE for AAS/AAT or Diploma in Food Service Management.	10	12
2019-2020	929603	FOUNDATIONS IN NUTRITION	This course focuses on nutrition and meal planning in relation to the food preparation industry. Topics include the science of food and nutrition, essential nutrients and their relation to the growth, maintenance and functioning of the body, nutritional requirements of different age levels and economic and cultural influences on food selection. Upon completion of this course, students will be able to apply the basic principles of meal planning. CORE	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929604	SANITATION, SAFETY, AND FOOD SERVICE	This course introduces the basic principles of sanitation and safety to food service handling including purchasing, storing, preparation and serving. Specific topics include the dangers of microbial contaminants, food allergens and foodborne illness, safe handling of food, the flow of food, and food safety management systems. At the conclusion of this course students will be prepared to test for ServSafe® certification. The content of this course is foundational for all culinary arts classes. This is a core course.	10	12
2019-2020	929605	TABLE SERVICE	This course is a guide for the modern wait staff. Topics include laying the cover, taking the order, surveying of different styles of table service from the casual to the very formal, tabulating and presenting the bill, and busing and turning the table. Upon completion of this course, students should be able to demonstrate proficiency in the art of table service.	10	12
2019-2020	929606	MEAL MANAGEMENT	This course covers the principles of meal management. Topics include menu planning, food selection, recipe standardization, food preparation, and meal service for all phases of food service. Upon completion of this course, students will be able to apply efficient work habits, sanitation and safety in the kitchen.	10	12
2019-2020	929607	ADVANCED FOOD PREPARATION	In this course, students apply food preparation and meal management skills in all areas of food service. Emphasis is placed on management and technical skills needed to operate a restaurant. Upon completion, students will develop advanced skills in food preparation and meal management.	10	12
2019-2020	929608	BASIC FOOD PREPARATION LAB	In this course students apply fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. At the conclusion of this course students will demonstrate basic food preparation skills. This course is CORE for AAS/AAT or Diploma in Food Service Management.	10	12
2019-2020	929609	FOOD PREPARATION	In this course students acquire fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. At the conclusion of this course students will demonstrate basic food preparation skills. This course is CORE for an AAS/AAT or Diploma in Food Service Management.	10	12
2019-2020	929610	CULINARY ART SCULPTURE	This course includes the notion of fantasies that accompany the sculpturing motion with food. Work on centerpieces for all occasions will be included. The student will be exposed to a variety of three-dimensional edible mediums from walking cakes to salt dough.	10	12
2019-2020	929611	MEAT PREPARATION AND PROCESSING	This course focuses on meat preparation and processing. Students will be responsible for the preparing of meats including beef, pork, poultry, fish, and seafood so they can be used for final preparations in the other stations of the kitchens. Upon completion, students will be able to demonstrate an understanding of the principles in meat preparation and processing.	10	12
2019-2020	929612	FOUNDATIONS OF BAKING	This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to prepare and evaluate baked products.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929613	INTRO TO GARDE MANAGER	This course is designed to develop skills in the art of Garde Manger. Topics include pates, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapés, hor d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate show pieces	10	12
2019-2020	929614	ADVANCED GARDE MANAGER	This course is a continuation of skill development in the art of Garde Manger. Major topics to be covered include preparation of gourmet foods, application of cold food fabrications and display, sausage making, ice carving and carving decorative substances to produce buffets. Upon completion, students should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology.	10	12
2019-2020	929615	ADVANCED BAKING	This course is a continuation of CUA 204. Topics include specialty breads, pastillage, marzipan, chocolate, pulled-sugar, confections, classic desserts, pastries, and cake decorating. Upon completion, students should be able to demonstrate pastry preparation and plating, cake decorating, and show-piece production skills.	10	12
2019-2020	929616	BEVERAGE MANAGEMENT	This is a survey course of basic alcoholic and non-alcoholic beverages as they relate to food service. Topics include wine and food appreciation and laws related to alcohol services. Upon completion, students should be able to determine what beverages compliment various cuisines and particular tastes.	10	12
2019-2020	929617	FOOD PURCHASING AND COST CONTROL	Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and food service ethics. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.	10	12
2019-2020	929618	INTERNATIONAL CUISINE	This course focuses on various cuisines from countries and regions throughout the world. Students will prepare complete menus reflective of the culture and goods of these countries and regions with emphasis on ingredients and authentic preparation methods. Upon completion, students should be able to research and execute international menus.	10	12
2019-2020	929619	REGIONAL CUISINES OF THE AMERICAS	This course provides a brief history of the ancient American foods that enhanced the world's cuisines. Emphasis is placed on how these foods influenced the "American Cuisines" of today. Upon completion of this course, students will be able to research and execute regional American cuisines.	10	12
2019-2020	929620	PLATED DESSERT DESIGN	This course focuses on plated dessert designs. Emphasis will be placed on complex presentations with two or more main items using decorative garnishes. Upon completion, students should be able to plate and serve attractive presentations of desserts with appropriate sauces and garnishes.	10	12
2019-2020	929621	INTRODUCTION TO PASTRIES	This course focuses on preparing cakes and tortes. Emphasis is on the techniques necessary for Bavarian creams, ganache, buttercream, whipped cream, marzipan, chocolate, and production of mignardises and petit fours. Upon completion, students should be able to plan, execute and evaluate dessert platters, individual plated desserts, and show pieces.	10	12
2019-2020	929622	ADVANCED PASTRIES	This course is a continuation of CUA 217 and focuses on wedding cakes, occasional cakes, pastry buffets, and frozen desserts. Emphasis is placed on creating a pastry buffet consisting of cakes, tortes, french pastries, and mignardises. Upon completion, students should be able to plan, execute, and evaluate dessert platters, individual plated desserts, and show pieces.	10	12
2019-2020	929623	INTRODUCTION TO PATISSERIE	This is an introductory course to patisserie. Emphasis is placed on individual desserts, blown sugars, pulled sugar, pastillage gum paste, nougat. Upon completion, students should be able to plan, execute, and evaluate dessert platters, individual plated desserts, and show pieces.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929624	ADVANCED PATISSERIE	This course continues the focus on patisserie. Emphasis is placed on developing competencies in individual desserts, platter setups, decorative show pieces, ices, corbets, parfaits, chocolates, and confections. Upon completion, students should be able to plan, execute, and evaluate dessert platters, individual plated desserts, and show pieces.	10	12
2019-2020	929625	FIELD EXPERIENCE	A minimum of 200 hours of supervised practical experience in an approved food service system assigned by the Coordinator. Students are supervised jointly by director on the job and by the college instructor. Students gain practical experience in food services. This course may be repeated for credit.	10	12
2019-2020	929801	INTRODUCTION TO PAINTING AND REFINISHING	This course covers the basics of painting and refinishing. Topics include identifying and using surface abrasives, stains, paints, and basics of shop operation. Upon completion, students should be able to recognize and apply the principles of basic painting and refinishing.	10	12
2019-2020	929802	TOOLS AND MACHINERY IN PAINTING AND REFINISHING	This is an introductory course into the use of and maintaining of tools and spraying equipment. Topics include preventive maintenance, troubleshooting, and repair of tools and machines. Upon course completion, students should be able to repair, service, and maintain tools and machines.	10	12
2019-2020	929803	SURFACE PREPARATION	This course includes techniques and practices in using surface abrasives, water, chemicals, stains, and fillers. Correct stripping methods and compliance with government requirements are included. Upon completion of this course the student should know the proper methods of preparing surfaces and how to comply with federal and state regulations.	10	12
2019-2020	929804	LACQUER FINISHES FUNDAMENTALS	This course introduces lacquer finishes. Topics include repairing scratches, removing water marks, using solvents, applying sealers and finishes. Upon completion, students should be able to make repairs to furniture and use solvents, sealants and finishes.	10	12
2019-2020	929805	LACQUER FINISHES	This course covers the use of lacquer finishes in industrial applications. Topics include traditional and updated spraying technology and techniques. Emphasis is placed on the maintenance and safe use of equipment.	10	12
2019-2020	929806	LACQUER FINISHES LAB	This course covers the practical application of lacquer finishes including the proper mixing of solvents. Projects can include residential and industrial applications. Emphasis is placed on the appropriate use of personal safety equipment.	10	12
2019-2020	929807	FURNITURE REFINISHING AND PAINTING	This course introduces the student to the various techniques and methods in used in painting and refinishing furniture. Topics include different methods used in furniture repair, making replacement parts, painting/staining and reassembly. Upon completion of this course the student should know the various methods to repair and refinish most furniture problems.	10	12
2019-2020	929808	FURNITURE REFINISHING AND PAINTING LAB	This course allows the student to apply the techniques in a laboratory setting. Upon completing this course the student should be able to apply the various techniques used in furniture refinishing, painting, repair or construction.	10	12
2019-2020	929809	INDUSTRIAL PAINTING I	This course introduces the students to preparing and painting various surfaces in an industrial setting. Topics will include safety, careers in painting, ladders, scaffolds, lifts, and fall protection, Identifying surface and substrate materials and conditions, protecting adjacent surfaces, surface preparation, sealants and repair/fillers, paints and coatings, and brushing and rolling.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	929810	INDUSTRIAL PAINTING II	This course is a follow on to Industrial Painting I. Topics include painting failures and remedies, job planning and completion, chemical cleaning and stripping, low-pressure water cleaning, abrasive blasting, drywall finishing and patching, stains, clear finishes, wood finishing, coatings, and spray painting.	10	12
2019-2020	930001	INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS TECHNOLOGY	This is an introductory GIS course focusing on maps, map analysis, and an introduction to computers. Emphasis is placed on raster GIS capabilities, data acquisition, spatial databases, and using GIS and GIS trends. Upon completion, students will demonstrate the ability to use GIS in spatial analysis, output, graphics output design issues, modes of user/GIS interaction, generating complex products and using GIS for archives.	10	12
2019-2020	930002	GEOGRAPHIC INFORMATION SYSTEMS	This course is designed to introduce the student to the Geographic Information System (GIS) software. Topics will include storing, managing, and displaying spatial features and geographic data, coordinate systems, vector and raster data models, spatial data editing, and attribute data management. Upon completion students should be able to manipulate and edit GIS data.	10	12
2019-2020	930003	INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS	This course introduces students to the concepts, techniques, and tools of Geographic Information Systems (GIS), which is a computer-based data processing tool used to manage and analyze spatial information. Topics covered include data acquisition, management, manipulation, and analysis, and cartographic output for applications of GIS in scientific and technological operations such as environmental assessment, analysis or natural hazards, site analysis for business and industry, resource management, and land-use planning. Through hands-on exercises and/or projects with related software packages, students will acquire basic skills in GIS.	10	12
2019-2020	930004	CARTOGRAPHIC DESIGN FOR GIS	This course provides a comprehensive study of GIS-applicable cartography including cartographic principles, data acquisition techniques, and methods of base map development. The course will include map projections, map scales, types of thematic maps, and map accuracy. Scanning, digitizing and coordinate geometry techniques used in GIS base map development will be introduced through hands-on exercises and computer-assisted mapping projects.	10	12
2019-2020	930005	REMOTE SENSING, SPATIAL ANALYSIS, AND MODELING IN GIS	The students will gain a theoretical background in remote sensing, covering such topics as remote sensing physics, data sources, visual images, image enhancement and filtering; geo-referencing; multi-spectral classification; data import and export; and GIS integration. Additionally, this course will provide the fundamentals of spatial information systems and quantitative techniques applicable to spatial data, including measures of central tendency, dispersion, and density. The course will also focus on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships.	10	12
2019-2020	930006	GIS APPLICATIONS PROGRAMMING	This course introduces students to GIS programming by utilizing various software programs. Students will design and/or modify GIS tools and commands, create new GIS tools, automate GIS operations, and integrate software with other software applications.	10	12
2019-2020	930007	WEB MAPPING	This course involves the design, development, and deployment of interactive mapping tools distributed via the World Wide Web. Each lesson includes associated readings and discussions about concepts and tools in open web mapping. These assignments are designed to help students progress towards successfully completing the final project. The course prepares students to design, develop, and implement custom web mapping applications. On completion of the course, students will be able to build and deploy a complete web mapping solution including mobile devices. The course will cover a variety of software packages for web/ mobile mapping.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930008	DIRECTED STUDY	This course provides students with practical application of all elements of accepted GIS project planning strategies covered in prior course work. Students submit a project proposal to faculty for review/approval to include data capture, manual digitizing (if necessary), base map building and data analysis/synthesis. Upon completion students will be able to produce a GIS project of full or single color maps demonstrating all elements of project design and a written report of conclusions.	10	12
2019-2020	930201	INTRODUCTION TO COMPUTERS IN GRAPHICS AND DESIGN COMMUNICATIONS	This course provides students with a basic knowledge of computer operations, software applications, and the role and impact of computers in graphic design and communications. Topics include computer terms, hardware components, drawing, image editing and page layout software applications. Upon completion, student should be able to perform basic computer operations, internet navigation, file management, and should be able to demonstrate an understanding of page layout software applications.	10	12
2019-2020	930202	INTRODUCTION TO THE GRAPHIC COMMUNICATIONS INDUSTRY	This course provides an introduction to the graphic arts and printing industry. Emphasis is placed providing students an overview of all aspects of the industry. Upon completion, students should be able to use industry terminology, understand current and emerging trends in technology, and make decisions about career options.	10	12
2019-2020	930203	INTRODUCTION TO COMPUTER GRAPHICS	This course introduces students to software applications in graphic productions. Topics may include production terms, drawing, image editing, illustration, and layout software applications. Upon completion, students should be able to use industry-standard production software packages.	10	12
2019-2020	930204	COMPUTER GRAPHICS	This course introduces students to digital imaging software. Emphasis is placed on painting and editing, creating special effects, basic image corrections, photo retouching, preparing images for web publications and creating color separations. Upon completion, students should be able to name and identify the different tools, work with multiple layer images, retouch a photograph, create special effects and prepare an image for a web publication.	10	12
2019-2020	930205	TECHNICAL PROCESSES	This course introduces students to the basic concepts and skills of image and page production and assembly necessary for commercial printing. Topics include graphic industry equipment, materials, and techniques used to produce comprehensives and mechanicals, digital camera operations, scanner operation, and digital image creation. Upon completion, students should be able to recognize and evaluate quality line, halftone images, and four-color print pieces.	10	12
2019-2020	930206	COMPUTER DRAWING	This course provides students with a technical background in computer graphics. Emphasis is placed on the different drawing and editing tools associated with industry standard software. Upon completion, students should be able to identify the different tools associated with the software, render computer illustrations, create corporate identity pieces and images, edit and manipulate text.	10	12
2019-2020	930207	ELECTRONIC PAGE LAYOUT AND ASSEMBLY	This course introduces students to electronic page layout. Topics include importing, combining and manipulating text and graphic elements for composite page layout and production. Upon completion, students should be able to produce single-page, spread-page, and continuous-page digital documents suitable for low- or high- resolution output as well as electronic prepress file submissions.	10	12
2019-2020	930208	INTERMEDIATE ELECTRONIC PAGE PRODUCTION	This course provides students an opportunity to expand their knowledge and technical expertise in electronic page production. Topics include production of magazines, newspapers, books, catalogues and other high volume, multi-page productions. Upon completion, students should be able to complete multi-page projects as members of production teams, and have enhanced organization, communication and problem-solving skills.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930209	ADVANCED ELECTRONIC PAGE PRODUCTION	This course is a continuation of GPC 130. Topics include advanced page layout and composition, style sheets, house styles, and style manuals. Upon completion, students should be able to maintain graphic consistency, use typographic techniques, color and should be able to create and maintain production-oriented components.	10	12
2019-2020	930210	DIGITAL PREPRESS	This course provides an in-depth study of electronic production techniques for printing and prepress applications. Topics include file preparation in compliance with industry standards; troubleshooting, correct and preflight files; correct line art and grayscale images and trap color images. Upon completion, students should be able to troubleshoot and resolve technical prepress problems associated with software applications, fonts and font management, cross-platform conversions, digital imaging and page layout and imposition.	10	12
2019-2020	930211	ESTIMATING COSTS IN PRINTING AND GRAPHICS COMMUNICATIONS	This course provides students with a thorough understanding of the costs and dynamics of running a profitable graphics and printing business. Emphasis is placed on estimating jobs and producing competitive bids with or without computer software. Upon completion, students should be able to estimate the cost of producing a variety of projects, apply essential problem-solving techniques, exercise self-management techniques and be able to work in a group or team environment.	10	12
2019-2020	930212	PORTFOLIO	This course provides the advanced student an opportunity to use previous graphic art training to design and produce a professional and marketable portfolio for final presentation. Emphasis is placed on a completed portfolio, resume, and cover letter. Upon completion, students should be able to formulate and organize their portfolios for various design positions.	10	12
2019-2020	930213	ON-LINE GRAPHICS COMMUNICATIONS	This course focuses on the Internet and design principles for web uses. Emphasis is placed on software necessary for the creation and maintenance of a web site. Upon completion, students should be able to design, and maintain on-line communications.	10	12
2019-2020	930214	CURRENT TOPICS IN GRAPHICS AND PRINTING COMMUNICATIONS	This course is a survey of current trends in the graphic communications industry and provides specialized instruction in various areas using current professional techniques. Emphasis is placed on specialized areas of graphic communications.	10	12
2019-2020	930215	3-D GRAPHICS AND ANIMATION	This course is designed to tap the imagination of the student in a three dimensional problem solving environment. Topics include a basic introduction to the concepts of 3D design and animation as applied to a design project. Upon completion, students should be able to create and animate graphics in a three-dimensional environment.	10	12
2019-2020	930216	COOPERATIVE WORK EXPERIENCE IN GRAPHICS AND PRINTING COMMUNICATIONS	This course is designed for the student to obtain work experience in the graphic communications profession. Emphasis is placed on instruction by a qualified professional in a work situation and on producing graphic projects and meeting industry standards using current technology. Upon completion, students should be able to work in a professional creative environment with little or no supervision.	10	12
2019-2020	930217	COOPERATIVE WORK EXPERIENCE IN GRAPHICS AND PRINTING COMMUNICATIONS	This course is designed for the student to obtain work experience in the graphic communications profession. Emphasis is placed on instruction by a qualified professional in a work situation and on producing graphic projects and meeting industry standards using current technology. Upon completion, students should be able to work in a professional creative environment with little or no supervision.	10	12
2019-2020	930401	INTRODUCTION TO GRAPHICS	This course introduces the student to the Graphic Design industry. Emphasis is placed on visual language vocabularies, the elements and principles of design, typography, creative problem solving, design processes, current design technologies, and professional expectations of graphic designers.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930402	LAYOUT AND DESIGN	This course introduces students to layout and design principles using current software. Topics include importing, combining and manipulating text, graphic elements, and images for composite layout. Upon completion, students should be able to design and layout various projects at a professional level for production.	10	12
2019-2020	930403	ILLUSTRATION GRAPHICS	This course covers the use of vector based software for preparing illustrations for output using form, balance, repetition, proportion, and color theory. Emphasis is placed on creating clip art, logos, and illustrations to be reproduced in print and electronic media. Upon completion, students should be able to successfully prepare scalable artwork for production.	10	12
2019-2020	930404	PHOTOSHOP	This course introduces students to digital imaging software. Emphasis is placed on painting and editing, creating special effects, basic image corrections, photo retouching, preparing images for web publications and creating color separations. Upon completion, students should be able to identify the different tools, work with multiple layer images, retouch a photograph, create special effects and prepare an image for a web publication.	10	12
2019-2020	930405	GRAPHICS DESIGN TECHNIQUES	This course introduces the different creative processes involved to produce professional graphic designs. Emphasis is placed on the student developing a standard of design quality to be used throughout the graphic design program and professional life.	10	12
2019-2020	930406	DIGITAL PHOTOGRAPHY FOUNDATION	This course introduces the creative process of digital photography. Emphasis is placed on the components, accessories, and maintenance of a digital camera. Upon completion a student will comprehend how to compose and shoot a picture using a digital camera.	10	12
2019-2020	930407	3-D FUNDAMENTALS	This course introduces students to fundamental concepts, principles, and practices of 3D digital modeling and 3D modeling and rendering software. Students are given instruction in 3D modeling techniques including: production of geometric and organic surfaces and forms using NURBS (Nonuniform rational B-spline), polygon construction and sub-divisional surfaces.	10	12
2019-2020	930408	DIGITAL VIDEO FOUNDATION	This course introduces students to the basic knowledge and development of digital video and audio. Students are introduced to creating digital video productions and editing techniques. Emphasis is placed on aesthetics and techniques of digital video and audio recording and non-linear editing.	10	12
2019-2020	930409	WEB DESIGN	This course focuses on the necessary technical tools and design principles used for creating and posting web sites. Emphasis is placed on software and the creation and maintenance of a web site. Upon completion, students should be able to design, implement and maintain a web site.	10	12
2019-2020	930410	PRODUCTION PROCEDURES	This course introduces students to the stages and procedures necessary to prepare conceptual artwork for print. Traditional as well as contemporary production methods are explored. Students will develop and enhance interpersonal and communication skills necessary to work with clients, peers and suppliers involved in the print production process.	10	12
2019-2020	930411	ILLUSTRATION DESIGN	This course covers the use of vector based software for preparing illustrations for output using form, balance, repetition, proportion, and color theory. Emphasis is placed on expanding the student's ability to create illustrations to communicate concepts and ideas.	10	12
2019-2020	930412	PRODUCTION PROCESSES	This course introduces students to the stages and procedures necessary to prepare conceptual artwork for print. Traditional as well as contemporary production methods are explored. Students will develop and enhance interpersonal and communication skills necessary to work with clients, peers and suppliers involved in the print production process.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930413	DIGITAL PHOTOGRAPHY TECHNIQUES	This course focuses on picture composition, lighting, camera angles, depth of field and camera settings to create a visual impression. Emphasis is placed on the student's ability to shoot and present photographic work in various delivery platforms. Design concepts are reinforced in this course for use with all media types.	10	12
2019-2020	930414	WEB GRAPHICS	This course focuses on creating original graphics for the web. Students will design images for backgrounds, text, graphic formats, navigation, and animation. Students will learn to use appropriate colors, file formats, and compression methods in designing web graphics and layouts.	10	12
2019-2020	930415	DIGITAL VIDEO PRODUCTION	This course focuses on production planning, camera techniques, lighting, audio, and advanced non-linear editing. Students will work independently or in small groups to develop, capture, edit, and deliver digital video projects while also learning compression and delivery standards.	10	12
2019-2020	930416	3-D ANIMATION	This course focuses on a series of project-based lessons designed to guide students through the process of creating and generating an animation. Emphasis is placed on animation, texture map, adding visual effects and rendering techniques using lighting, camera, and color manipulation within a current 3D Modeling and Animation software.	10	12
2019-2020	930417	PORTFOLIO PREPARATION	This course includes the preparation of artwork for a portfolio presentation. Topics include production of a portfolio for presentation at the completion of the first year of course work. Upon completion, students should be able to prepare and produce a portfolio for presentation.	10	12
2019-2020	930418	GRAPHICS BUSINESS MANAGEMENT	This course is designed to introduce the student to general business practices including finance, accounting, insurance, taxes, management, marketing, and negotiation. Students are provided a foundation that addresses the complexities of intellectual properties, copyright, and basic business and contract law as it pertains to creative content.	10	12
2019-2020	930419	PUBLICATION DESIGN	This course further prepares students for publication layout and design principles incorporating creative software. Topics include importing, combining and manipulating text, graphic elements, and images for composite layout. Emphasis is placed on using elements of multiple design software applications to produce professional publications.	10	12
2019-2020	930420	ILLUSTRATION DESIGN TECHNIQUES	This course further develops the student's ability to communicate visually by incorporating raster and vector imagery for illustration purposes. Emphasis is placed on creating complex illustrations that communicates an idea or concept.	10	12
2019-2020	930421	PHOTOSHOP TECHNIQUES	This course further enhances the student's experience with digital imaging software. Emphasis is placed on the development of intermediate level skills in the use of Photoshop for the purpose of creating and manipulating imagery that communicates an idea or concept.	10	12
2019-2020	930422	PHOTOSHOP IMAGING	This course draws from the student's previous experiences to enhance their use of digital imaging software. Emphasis is placed on the development of advanced level skills in the use of Photoshop for the purpose of creating and manipulating imagery that communicates an idea or concept.	10	12
2019-2020	930423	CONCEPTUAL DIGITAL PHOTOGRAPHY	This course allows the student to create powerful images through different utilizations of light, perspective, and composition. Advanced camera functions, software and final image output are explored. Emphasis is placed on improving the students' photographic skills by encouraging discovery of personal style.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930424	PUBLICATION STUDIO	This course allows the student to draw from their creative talent and previous course work to design and prepare complex publications for printing. Emphasis is placed on the student's ability to use creative problem solving techniques to manage their project from concept to completion.	10	12
2019-2020	930425	BASIC MULTIMEDIA PRESENTATION	This course covers basic desktop electronic imaging technology and multimedia presentation development and production. Emphasis is placed on preparation and production of multimedia presentations with a variety of computer hardware and software. Upon completion, students should be able to prepare and produce multimedia presentations.	10	12
2019-2020	930426	ADVANCED MULTIMEDIA PRODUCTION	This course covers advanced desktop electronic imaging technology and multimedia presentation development and production. Emphasis is placed on preparation and production of multimedia presentations with a variety of computer hardware and software. Upon completion, students should be able to prepare and produce multimedia presentations.	10	12
2019-2020	930427	3-D GRAPHICS AND ANIMATION	Building on previously learned skills this course is a series of project-based lessons designed to guide students through the process of creating and generating an animation. Emphasis is placed on animation, texture map, adding visual effects and rendering techniques using lighting, camera, and color manipulation within a current 3D Modeling and Animation software.	10	12
2019-2020	930428	DIGITAL VIDEO EFFECTS	This course focuses on the creation of 2D visual effects in digital video productions. Emphasis is placed on keyframe, chroma key screen, composition, and proper rendering techniques. Students will conceptualize and create an original scene for a movie, TV, or video game.	10	12
2019-2020	930429	WEB MEDIA	This course focuses on creating original graphics for the web. Students will design web based media, animation, and navigation for the purpose of human interface design. Emphasis is placed on techniques and technologies for designing web media in which interactivity is the focus.	10	12
2019-2020	930430	DESIGN STUDIO I	This course allows students to create, design and produce a corporate image project. Emphasis is placed on the integration of graphic design skills, typography, creative visual problem-solving, and professional presentation. Upon completion, students should be able to apply skills to design projects from concept to implementation.	10	12
2019-2020	930431	DESIGN STUDIO II	This course allows students to create, design and produce a corporate image project. Emphasis is placed on the integration of graphic design skills, typography, creative visual problem-solving, and professional presentation. Upon completion, students should be able to apply skills to design projects from concept to implementation.	10	12
2019-2020	930432	DESIGN STUDIO III	This course allows students to create, design and produce a corporate image project. Emphasis is placed on the integration of graphic design skills, typography, creative visual problem-solving, and professional presentation. Upon completion, students should be able to apply skills to design projects from concept to implementation.	10	12
2019-2020	930433	ILLUSTRATION DESIGN STUDIO	This course is designed to allow the student to draw on their previous illustrative work to communicate. Classes are designed around a series of problems and illustration experiences for which there are no pre-established solutions. Emphasis is placed on the student's illustrative ability to create a visual image that communicates an idea or concept.	10	12
2019-2020	930434	PACKAGE DESIGN STUDIO	This course is designed to allow the student to draw on their previous course work to produce a prototype package design. Classes are designed to allow students to explore the form and function of 3-D packaging. Emphasis is placed on designing and constructing containers and/or displays for various products.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930435	DIGITAL PHOTOGRAPHY STUDIO	This course allows the student to develop photographic skills in professional, editorial and studio photography. The use of advanced digital photography techniques and processes will be expected, including studio photography with portrait figure, still life, and architectural form, as well as black-and-white, and color formats.	10	12
2019-2020	930436	WEB DESIGN STUDIO	This course allows the student to design and produce a project suitable for use on the web. Emphasis is placed on creating an original concept in which the successful design and implementation of a web site is achieved. It must serve as an effective communication tool using current technologies and user interaction. Students will design and implement effective web sites that can be included in their portfolios.	10	12
2019-2020	930437	DIGITAL VIDEO STUDIO	This course allows the student to design and produce a project suitable for use in a movie, TV, or video game. Emphasis is placed on creating an original concept, storyboarding, production, and post-production processing. The student will document each stage of the project's development. The project will be presented for critique and evaluation at each of the developmental stages.	10	12
2019-2020	930438	3-D STUDIO	This course allows the student to design and produce a project suitable for digital animation, 3D design, or game development. Emphasis is placed on creating an original concept, storyboarding, and post-production processing. The student will document each stage of the project's development. The project will be presented for critique and evaluation at each of the developmental stages.	10	12
2019-2020	930439	PORTFOLIO PRESENTATION	This course includes the preparation of artwork and a resume for portfolio presentation. Topics include production of a resume and portfolio for presentation during the second year of course work. Upon completion, students should be able to prepare and produce a resume and portfolio for presentation.	10	12
2019-2020	930440	PRACTICUM / COOP	This course is designed for the student to obtain real work experience in the graphic arts industry. Emphasis is placed on instruction by a qualified graphic artist in a work situation and producing printable assignments using current technology. Upon completion, students should be able to work in a graphic arts environment with little or no supervision.	10	12
2019-2020	930441	PRACTICUM / COOP	This course is designed for the student to obtain real work experience in the graphic arts industry. Emphasis is placed on instruction by a qualified graphic artist in a work situation and producing printable assignments using current technology. Upon completion, students should be able to work in a graphic arts environment with little or no supervision.	10	12
2019-2020	930442	PRACTICUM / COOP	This course is designed for the student to obtain real work experience in the graphic arts industry. Emphasis is placed on instruction by a qualified graphic artist in a work situation and producing printable assignments using current technology. Upon completion, students should be able to work in a graphic arts environment with little or no supervision.	10	12
2019-2020	930443	GRAPHIC TRENDS	This course covers current trends and practices in the graphic arts industry. Emphasis is placed on software programs that are currently being used by professionals. Upon completion, students should be able to use applicable current software.	10	12
2019-2020	930444	GRAPHIC TRENDS	This course covers current trends and practices in the graphic arts industry. Emphasis is placed on software programs that are currently being used by professionals. Upon completion, students should be able to use applicable current software.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930445	GRAPHIC TRENDS	This course covers current trends and practices in the graphic arts industry. Emphasis is placed on software programs that are currently being used by professionals. Upon completion, students should be able to use applicable current software.	10	12
2019-2020	930446	GRAPHIC TRENDS	This course covers current trends and practices in the graphic arts industry. Emphasis is placed on software programs that are currently being used by professionals. Upon completion, students should be able to use applicable current software.	10	12
2019-2020	930601	INTRODUCTION TO FIRST RESPONDER AND PUBLIC SAFETY CAREERS	Exploration of the career paths, technical and academic qualification requirements, interdisciplinary nature and regimen associated with all First Responders careers, including members of teams involved with all positions within the Fire Service, Law Enforcement, Emergency Medical, Emergency Management, Homeland Security, and Federal Response careers. Significant coverage of the critical natures and aspects of each major career opportunity will be covered, including requirements involving interdepartmental communication, coordination, and organizational interaction.	10	12
2019-2020	930602	HOMELAND SECURITY STRATEGIES AND OPERATIONAL TECHNIQUES	Overview of the administrative, legislative, and operational elements of Homeland Security programs and the internal associated processes including a review of the history of Department of Homeland Security, policies, and programs. Provides an overview of homeland security topics including: bioterrorism (attacks with contagious agents such as smallpox or non-contagious agents such as anthrax, and attacks on the food supply), pandemic influenza, nuclear security at ports and around cities, the biometric aspects of the US-VISIT Program, the intersection of homeland security and immigration, and suicide bombings. Special overview also includes The National Strategy for Homeland Security and Alabama State Homeland Security Strategy.	10	12
2019-2020	930603	DRUG INVESTIGATIONS AND OPERATIONS	This course outlines the criminal nature of drug investigations and operations and interfaces these with similar aspects of terrorism while highlighting the working relationship law enforcement personnel must have with the various disciplines in the Homeland Security community and why these are vital to the nation's counter-terrorism strategy. The session will outline how this responsibility differs from typical criminal or military issues, how definitions help or hinder that work at the federal, state and local levels and a brief overview of what tools the various disciplines bring to the challenge.	10	12
2019-2020	930604	TRANSPORTATION AND BORDER SECURITY	The purpose of this course is to provide students with an understanding of the role HLS plays in transportation in border security. Topics include a history of transportation related threats to the US, vulnerabilities in transportation systems, threats to passenger and freight transportation systems, and the roles of various agencies to foster border security. Strategic planning and problem solving for border security will be emphasized.	10	12
2019-2020	930605	CYBER FORENSICS AND INFORMATION SECURITY	Course materials will parallel those of the U.S. Department of Homeland Security National Computer Forensics Institute in Hoover, Alabama. Founded in March 2007, the center aims to give criminal investigators, prosecutors and judges from the U.S. and other countries the training and support needed to better investigate and understand digital crimes. Specifically, this course describes techniques for analyzing risks to a computer system, extracting and documenting computer evidence stored as data or magnetically encoded information, and implementing a security policy that protects information assets from potential intrusion	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930606	INFECTIOUS DISEASE AND PANDEMIC VIRUSES	Course materials will parallel those issued by the Centers for Disease Control, Atlanta, GA, and include the US Department of Health and Human Services (HHS) Pandemic Influenza Plan. A review of this blueprint for pandemic influenza preparation and response will support discussion and scenario generation using guidance from national, state, and local policy makers and health departments. Topics include: an overview of the threat of pandemic influenza, a description of the relationship of this document to other Federal plans and an outline of key roles and responsibilities during a pandemic. In addition, it specifies needs and opportunities to build robust preparedness for and response to pandemic influenza.	10	12
2019-2020	930607	CRITICAL INFRASTRUCTURE ASSESSMENT AND PROTECTION	This course provides an overview of these and investigates what constitutes critical infrastructure and includes the design and modification of infrastructure to better thwart terrorism and disaster threats. Evaluation of strategies for promoting vulnerability assessments and risk reduction, and protection of critical infrastructures will be examined. Critical Infrastructure protection is one of the cornerstones of homeland security. The May 22, 1998 Presidential Decision Directive 63 specified eight (8) critical infrastructure sectors and the National Strategy for Protection of Critical Infrastructure and Key Assets lists 11 sectors: Water, Power & Energy, Information & Telecommunications, Chemical Industry, Transportation, Banking & Finance, Defense Industry, Postal & Shipping, Agriculture & Food, Public Health, and Emergency Services.	10	12
2019-2020	930608	HOMELAND SECURITY LEGAL ISSUES	The very nature of criminal activity and bringing that activity into the legal system mandates a careful approach to evidence, transfer of custody, preservation of crime scene, evidence collection and many other topics all crossing the boundaries from one department to another and require extreme communication and knowledge of each other's requirements and responsibilities. This course provides a comprehensive introduction to the legislative underpinnings of domestic homeland security and emergency management processes throughout all departmental arenas: Criminal Justice, Fire Science, Emergency Medical, and Homeland Security. Significant legislation will be reviewed with special consideration for the concepts that define legal duties and consequences for first responders and emergency managers.	10	12
2019-2020	930609	MASS CASUALTY AND TRIAGE MANAGEMENT	This course addresses and provides overview to the more grave aspects of Homeland Security and First Responder positions and response activities. Specifically if all prevention and preemptive actions in the face of a natural or manmade have failed and mass casualty events occur, it is again the First Responders who step forward and bear the burden of providing care, support, triage, and recovery methods and procedures. Topics in mass casualty and triage manage include responses to: chemical, biological, radiological, nuclear, and explosive devices (CBRNE), floods, wind, fire, transportation (land, sea, air) disasters involving transportation, coordination, prioritization, and management of care for victims, relatives, and surrounding communities.	10	12
2019-2020	930610	MULTI-ORGANIZATIONAL COMMUNICATIONS AND REPORT WRITING	This course expands upon the need for fast and accurate multi-organization communications throughout all First Responder communities. When disaster response turns into criminal scene investigative paperwork, communications across agency borders and standardized reporting become mandatory for proper legal adjudication. This course reviews the various types of local, state and federal reporting procedures and guidelines, including incident, investigative, progress reports and analyzes the different forms of written communications used throughout the law enforcement and Homeland Security communities.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930611	INTELLIGENCE ANALYSIS AND SECURITY MANAGEMENT	The purpose of this course is to provide students with knowledge and skills for intelligence gathering, analysis, and security management. Topics will include foundations and goals for security, ethical and professional behaviors, intelligence policies and functions, the Intelligence Reform and Terrorism Prevention Act, and information dependability. As a result of this course students should be able to use various forms of intelligence, apply sound reasoning, formulates predictions and forecasts terrorist activities.	10	12
2019-2020	930612	WEAPONS OF MASS DESTRUCTION (UNCLASSIFIED)	This course provides an overview of the characteristics of and relevant trends associated with weapons of mass destruction (WMD) that are relevant to homeland security and defense operations. WMDs include multiple mechanisms and agents in chemical, biological, radiological, nuclear, and explosive devices – CBRNE. The basics of CBRNE weapons designs are discussed and the general effects of weapon use are analyzed. The characteristics of important CBRNE agents are presented and technologies usable for detection and identification of those agents are described. Approaches to protecting against WMD weapons (including shielding, protective equipment, decontamination, prophylaxis, etc.) are discussed.	10	12
2019-2020	930613	DISASTER MANAGEMENT AND RECOVERY	This course reviews and critiques actual plans and engages students in components of effective disaster planning, exercise and scenario design, development, execution and follow-through evaluations within and across all First Responder agencies and jurisdictions. Introduced in this course, the Advanced Combat and Tactical Simulations (ACATS) software designed and developed by Lawrence Livermore National Labs at the University of California, Livermore. Natural and manmade disasters will be addressed and exercise scenarios generated for each with follow-on exercise and simulation execution.	10	12
2019-2020	930614	CRISIS MANAGEMENT	This course provides an overview of issues related to crisis management including the design and implementation of comprehensive emergency management and integrated emergency management strategic plans and covers key legislation impacting all First Responder fields. Specific focus is given to issues relevant to planning, development and execution of crisis communications programs for businesses and organizations and public relations techniques for communications throughout all crisis phases: Pre-Crisis, Crisis, and Post Crisis.	10	12
2019-2020	930615	INCIDENT MANAGEMENT TEAM OPERATIONS	This course is tailored toward supervisors and managers in the First Responder communities, but can be taken by all levels. The primary purpose is to provide students with a parallel curriculum augmenting the complete National Incident Command System (NIMS) and Incident Command System (ICS) course materials from the Department of Homeland Security and the National Command Strategy documents, as mandated via the Homeland Security Presidential Directive (HSPD-5), Management of Domestic Incidents of March 2004. This course is Multi-Prefixed CJR/EMS/FSC/HLS.	10	12
2019-2020	930616	BIO-DEFENSE AND AGRO-TERRORISM	This course provides a broad introduction and awareness of the threat of bio- and agro-terrorism to national and global security. In depth discussions will provide a comprehensive coverage of biological and chemical agents and the threat they pose to society. A review of global concerns for bio-security including the history of biological warfare, bioterrorism, concerns for agro-terrorism, and current initiatives in bio-defense will be included. cursory reviews will also be included of specific agents, diseases caused, detection methods, and consequence management and follow up considerations, including topics within: GAO food processing security and recalls, security in container storage and import/export controls, meat, poultry, and fish contaminant vulnerabilities, and water and sewage monitoring.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930617	SELECTED TOPICS SEMINAR IN HOMELAND SECURITY	The examination of current issues and concerns with Homeland Security including upcoming National Special Security Events that mandate comprehensive security planning and response capabilities. Challenges of implementing and maintaining homeland security will be covered. The purpose of the Special Topics course is to provide students with an extra focus on 2 or 3 major issues that have current visibility in real world application or debate throughout Homeland Security and First Responder arenas.	10	12
2019-2020	930801	PRINCIPLES OF HOSPITALITY MANAGEMENT	This course is a study of the principles of management and their applications to the hospitality industry. Emphasis is placed on the functions of management, the newest principles of management, and tools of the modern manager. Upon completion, students will be able to relate the basic principles of management to the hospitality field.	10	12
2019-2020	930802	BEVERAGE SELECTION AND APPRECIATION	This course will provide students with a basic understanding of distilled and brewed spirits. Emphasis will be placed on international wine producing areas and students will learn serving techniques and the basics of beverage etiquette. Upon completion, students will have a basic knowledge of beverage production.	10	12
2019-2020	930803	FOOD AND BEVERAGE COST CONTROL	This course is an introduction to the basics of food and beverage cost control in the hospitality industry. The student will gain an understanding of food and beverage cost considerations to include purchasing, receiving, and menu planning.	10	12
2019-2020	930804	NEW WORLD WINES	This course includes the theory and practice of selecting, storing and serving wines of the new world to achieve enhanced enjoyment of the dining experience. This course will cover the history of wine making in the new world, types and styles of wines produced, regions of production. Students will evaluate wines, match wines with food and match wines with food for service.	10	12
2019-2020	930805	FOOD AND WINE OF SPAIN	This course includes the theory and practice of pairing wines and foods to achieve enhanced enjoyment of the dining experience. The focus will be on the foods and wines of Spain and Portugal. Real world examples include menus and tasting notes from restaurants as well as vignettes, which set the wine pairings in a complete gastronomic, regional and cultural context.	10	12
2019-2020	930806	FOOD AND WINE PAIRING	This course includes the theory and practice of pairing wines and foods to achieve enhanced enjoyment of the dining experience. Real world examples include menus and tasting notes from restaurants as well as vignettes, which set the wine pairings in a complete gastronomic, regional and cultural context.	10	12
2019-2020	930807	BEVERAGE OPERATIONS	This course includes the theory and practice of serving beverages to achieve enhanced enjoyment of the dining experience. This course will cover the full spectrum of beverages offered in the hospitality industry including wines, cocktails, brewed beverages, coffees, teas, waters, and soft drinks.	10	12
2019-2020	930808	BUSINESS PLAN DEVELOPMENT FOR HOSPITALITY	This course is an introduction to the basics of writing a business plan as it applies to the hospitality industry. The student will gain an understanding of creating a business plan for a hospitality related business.	10	12
2019-2020	930809	INTERNSHIP PRACTICUM I	In this course, the student will gain on-the-job experience in using knowledge and skills acquired through various courses of instruction completed. Emphasis is placed on the student's working under the direct supervision of an experienced employee of the business establishment. Upon completion of this work experience, the supervisor will provide the college with a written report on the student's progress according to prior agreement of experience to be gained.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930810	INTERNSHIP PRACTICUM II	In this course, the student will gain on-the-job experience using knowledge and skills acquired through various courses of instruction completed. Emphasis is placed on the student work under the direct supervision of an experienced employee of the business establishment. Upon completion of this work experience, the supervisor will provide the college with a written report on the student's progress according to prior agreement of experience to be gained.	10	12
2019-2020	930811	INTERNSHIP PRACTICUM III	In this course, the student will gain on-the-job experience in using knowledge and skills acquired through various courses of instruction completed. Emphasis is placed on the student's work under the direct supervision of an experienced employee of the business establishment. Upon completion of this work experience, the supervisor will provide the college with a written report on the student's progress according to prior agreement of experience to be gained.	10	12
2019-2020	930812	HOSPITALITY MANAGERIAL ACCOUNTING	This course is designed to explain the standard hospitality accounting practices, financial statements, budgets, and financial planning. Emphasis is placed on applying the subject matter to the hospitality industry. Upon completion, students will be able to use managerial accounting to plan and protect an operation's finances.	10	12
2019-2020	930813	RESTAURANT SERVICE MANAGEMENT I	This course is designed to introduce students to planning, organization, control, and evaluation of restaurant operations. Topics covered will be menu planning, restaurant layout and design, marketing and sales promotion, food and beverage control procedures, and managing reservations and group bookings. Upon completion, students will be able to apply the learned techniques.	10	12
2019-2020	930814	HOSPITALITY ACCOUNTING	This course is an introduction to the basics of accounting as it applies to the hospitality industry. The student will gain and understanding of the basics of accounting and learn how to apply these techniques in the hospitality industry.	10	12
2019-2020	930815	HOSPITALITY EMPLOYEE RECRUITMENT & SELECTION	This course provides a solid framework for recruiting and selecting employees for hospitality related businesses. Emphasis is placed on strategies to avoid high recruitment cost, high training costs and low productivity.	10	12
2019-2020	930816	HOSPITALITY EMPLOYEE TRAINING AND DEVELOPMENT	This course provides a solid framework for recruiting and selecting employees for hospitality-related businesses. Emphasis is placed on strategies to avoid high recruitment costs, high training costs, and low productivity.	10	12
2019-2020	930817	FRONT OFFICE MANAGEMENT	This course is a study of front office management and of total hotel and condominium organization as it relates to the front office. Emphasis is placed on the methods of statistical analysis as applied to the front office in areas of price structure, occupancy patterns, and income using computer applications. Upon completion, students will be able to identify front office functions in hotel management.	10	12
2019-2020	930818	HOTEL/RESTAURANT AND TRAVEL LAW	This course introduces the student to the many responsibilities that the law imposes upon the hospitality/travel business. Emphasis is placed on examples of litigation in the travel industry. Upon completion, the student should understand safe and sound rules to assist management in avoiding legal pitfalls and lawsuits.	10	12
2019-2020	930819	HOSPITALITY EMPLOYMENT LAW	This course includes definitions of discrimination, the evolution of Equal Employment Opportunity legislation, employment laws and court interpretations, major areas of abuse and litigation in hospitality operations, and the Americans with disabilities act.	10	12
2019-2020	930820	LABOR COST CONTROL	This course is an introduction to the basics of labor cost control in the hospitality industry. The student will gain an understanding of labor cost considerations, performance standards and training methods for the hospitality industry.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	930821	HUMAN RESOURCE MANAGEMENT	This course is designed to provide students with a basic understanding of personnel management for the hospitality and travel industry. Students will be introduced to forces affecting the labor market, scientific management and the service sector, the importance of flexible employees and policies, and labor problems currently facing the industry. Upon completion, students should understand changing worker attitudes and values, federal and state legislation, the shrinking labor market, the changing demographics of the labor market, and the growing demands for better service.	10	12
2019-2020	930822	CURRENT TOPICS IN HOSPITALITY MANAGEMENT	This course is designed to introduce students to major topics currently influencing the management of hospitality operations. Course topics include, but are not limited to, hospitality law, ethics, human resources management, hotel/food service marketing, facilities management, cost control, information systems management, and customer service. Upon completion, students will have an updated outlook on factors influencing the hospitality field.	10	12
2019-2020	931001	INTRODUCTION TO HORTICULTURE	This course provides students with foundational knowledge relative to the horticulture profession. Specific topics include information regarding the horticulture industry, safety practices, basic botany, and general plant care and culture.	10	12
2019-2020	931002	HORTICULTURAL BUSINESS MANAGEMENT	This course provides the essential information needed to establish and maintain a horticulture related business. Topics of discussion in this course will include the basic principles of business and personnel management, custom services, insurance, and record keeping. The student will develop an understanding of the requirements placed on the manager of a small business to comply with mandated state and federal regulations and meet consumer demands.	10	12
2019-2020	931003	INTRODUCTION TO FLORICULTURE	This course introduces students to principles of floral design and flower shop managements. Topics include design techniques, marketing, and management practices. Upon course completion, students should be able to create basic floral designs and demonstrate an understanding of effective flower shop management practices.	10	12
2019-2020	931004	SOILS & FERTILIZERS	This course provides students with an overview of methodologies to improve soil through preventing erosion, pH balance, and the proper use of nutrients and fertilizers. Specifically, students will learn the characteristics of soils, methods to control soil erosion, methods to modify soil, how to test and modify soil pH, and how to provide nutrients through fertilizers and other means to improve plant growth.	10	12
2019-2020	931005	PLANT PROPAGATION	This course is designed to provide students with basic knowledge related to sexual and asexual plant propagation. At the conclusion of this course students will be able to use various techniques to propagate plants through seeds and asexual means such as budding, cutting, and grafting.	10	12
2019-2020	931006	TURF MANAGEMENT	This course is the study of all major southern lawn and sport grasses, their establishment and maintenance. Topics include turf equipment, fertilizers, insect and disease problems, and mowing techniques. Upon course completion, students will be able to evaluate the quality of an existing turf area and prescribe a maintenance program for turf used for lawns, playing fields and parks.	10	12
2019-2020	931007	NURSERY PRODUCTION	This course focuses on producing plants in a nursery. Topics include an overview of the industry, facility design, container production, and field growth. Upon course completion, students will be able to demonstrate proficiency in all phases of nursery plant productions.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931008	INTRODUCTION TO FLORICULTURE	This course introduces students to principles of floral design and flower shop management. Topics include design techniques, marketing, and management practices. Upon completion, students should be able to create basic floral designs and demonstrate an understanding of effective flower shop management practices.	10	12
2019-2020	931009	ORNAMENTAL PLANT IDENTIFICATION AND CULTURE	This course focuses on the identification and growth requirements of ornamental plants. Topics include identification, habits of growth, cultural requirements, and landscape use of ornamental plants of the southeastern United States. Upon course completion, students will know common and botanical names of landscape plants and will know the appropriate use of each plant.	10	12
2019-2020	931010	RESIDENTIAL LANDSCAPE DESIGN	This course provides an overview of the fundamentals of residential site design. Topics include site measuring and base map preparation, functional diagrams, landscape design principles, drafting and drawing procedures, design principles, appropriate use of plant materials, planting, site preparation, and spatial composition. Upon course completion, students will be able to develop a master plan for a residential property.	10	12
2019-2020	931011	COMMERCIAL LANDSCAPE DESIGN	This course is a study of landscape design principles, drafting and drawing procedures, and the use of plant materials. Emphasis is placed on drawing techniques and the appropriate use of plant materials in the commercial setting. Lab time is provided for the student to develop landscape drawings.	10	12
2019-2020	931012	PEST MANAGEMENT	This course provides student with foundational knowledge of techniques to manage various types of pests commonly associated with landscape management and horticulture. Specifically students receive instruction on managing common weeds, insects, and diseases.	10	12
2019-2020	931013	IRRIGATION SYSTEMS	This course is designed to provide students with the information needed to design, layout, and install an irrigation system on residential and commercial properties. Topics of discussion will include system design, cost estimating, installation techniques, and electronic control devices. Upon course completion, students will be able to design and install residential and commercial irrigation systems.	10	12
2019-2020	931014	GOLF COURSE MAINTENANCE	This course introduces students to procedures commonly used to maintain golf course greens and fairways. Topics include mowing procedures, fertilizing, watering, pest control, overseeding, and greens protection. Upon course completion, students will be able to demonstrate appropriate greens and fairway maintenance procedures.	10	12
2019-2020	931015	ADVANCED STUDIES IN HORTICULTURE	This course allows students to do practical research and develop a project of special interest under the guidance and supervision of a faculty member. Students and faculty confer in the selection of a project and in identification of objectives.	10	12
2019-2020	931016	GREENHOUSE MANAGEMENT	This is an introductory course in greenhouse plant production. Topics include types of structures, construction techniques, covering materials, and temperature control. Upon course completion, students will be able to apply basic greenhouse production procedures.	10	12
2019-2020	931017	GREENHOUSE CROP PRODUCTION	This is an introductory course to the use of greenhouse facilities for the production of foliage and flowering plant crops. Topics include propagation, scheduling, soils and media, crop selection, pest management, and methods of production. Upon course completion, students will be able to produce a wide range of commercial greenhouse crops.	10	12
2019-2020	931018	SEMINAR IN HORTICULTURE	This course focuses on current topics in horticulture. Topics are not normally included in the prescribed course of study, but not to ensure that students remain current in the field.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931019	SEMINAR IN HORTICULTURE	This course focuses on current topics in horticulture. Topics are not normally included in the prescribed course of study, but are to ensure that students remain current in the field.	10	12
2019-2020	931020	LANDSCAPE MAINTENANCE	The purpose of this course is to provide students with competencies to maintain a variety of landscapes. Basic instruction covers plant installation, landscape maintenance, turf maintenance, and basic business management. At the conclusion of this course, students will be able to perform general landscape maintenance and to develop a bid for landscaping jobs.	10	12
2019-2020	931021	LANDSCAPE MAINTENANCE	This course focuses on maintaining plant materials and turf in an existing landscape. Topics include pruning, mowing techniques, pest management and selection of maintenance equipment. Upon completion, students will be able to demonstrate landscape maintenance techniques and will be able to prepare labor-time estimates and cost analysis for maintaining landscapes.	10	12
2019-2020	931022	LANDSCAPE CONSTRUCTION	This course is an introduction to landscape construction. Emphasis is placed on grading and drainage, site development, irrigation systems, lighting, and other landscape construction. Upon course completion, students will be able to evaluate a blueprint and reconcile it to the job site.	10	12
2019-2020	931023	VEGETABLE AND ORCHARD CROPS	This course focuses on vegetable and fruit crops. Topics include cultural requirements, production procedures, and marketing. Upon course completion, students should be able to grow vegetables and establish orchard lay-outs.	10	12
2019-2020	931024	DEVELOPMENTS IN HORTICULTURE	This course provides students with specialized instruction in current trends and techniques related to the landscape and horticulture profession.	10	12
2019-2020	931201	LAW AND THE HOSPITALITY INDUSTRY	This course focuses on laws that apply to hotels, food-service establishments, and the travel industry. Topics include innkeepers' duties to guests, tenants, licensees and trespassers; concepts of liability and negligence; credit and collection practices; and miscellaneous statutes applicable to the hospitality industry.	10	12
2019-2020	931202	HOSPITALITY TECHNOLOGY AND COMPUTER APPLICATIONS	This course explores the use of technology as a tool to maximize profits and increase customer satisfaction related to the hospitality industry.	10	12
2019-2020	931203	HOSPITALITY FIELD EXPERIENCE I	The supervised field experience program puts student's classroom knowledge into practical use. It provides a balance between theory and practice, allowing the student to experience various facets of the industry that are not always available in the classroom. This experience provides the opportunity to clarify career goals, assess strengths and weaknesses, and obtain, develop and practice skills necessary for future success. This experience is also crucial to job placement. Any weaknesses in the program of the student can be identified and corrected to insure better job placement and salaries.	10	12
2019-2020	931204	HOSPITALITY FIELD EXPERIENCE II	This second level of field experience encourages the student to make definite career/employment decisions. While the first level field experience was used to determine a general direction of employment, it is suggested that this field experience should lead to permanent employment in the broad scope of hospitality management. Since it is a supervised placement, our staff would be working closely with the student to provide the final specific training for the chosen hospitality career.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931205	HOSPITALITY INDUSTRY COMPUTER SYSTEMS	This course presents an introduction to information systems used in the hospitality industry. Special focus will be on advances in the area of reservation systems, guest services, food and beverage management, hotel sales and hospitality accounting. Through applied study with hospitality management examples, students will be introduced to industry-specific applications for word processing, database management, spreadsheets, and presentation software.	10	12
2019-2020	931206	EVENT LOGISTICS AND ENTERTAINMENT	This course is designed to give students an introduction to venue planning and design as well as planning entertainment for fundraisers, festivals, meetings, and other events.	10	12
2019-2020	931207	PLANNING & DEVELOPMENT OF LEISURE PROGRAMS AND FESTIVALS	This course introduces students to the theory and practice of developing exciting and profitable leisure programs and festivals.	10	12
2019-2020	931208	HOUSEKEEPING ADMINISTRATION	This course introduces students to housekeeping functions in the hospitality industry and analyzes the management of the housekeeping department, including staffing, work scheduling, and duties of the executive housekeeper. Emphasis is on the training of housekeepers and assistants including the operations of in-house laundries as well as commercial operation. Upon completion, students will understand the management of housekeeping functions in the hospitality industry.	10	12
2019-2020	931209	HOSPITALITY MARKETING	This course is designed to study the principles of marketing and promotion as they related to the hospitality industry. Topics include promotional techniques, advertising, the organization of a lodging operation's sales department and promotion of special events.	10	12
2019-2020	931210	MANAGING HOSPITALITY AND TOURISM NONPROFIT ORGANIZATIONS	This course will explore the roles and management of nonprofit organizations in the Hospitality and Tourism industry. Topics will range from issues of leadership to those of operational implementation. Basic concepts, research and theories on nonprofit organizational behavior will be introduced to assist students in learning principles and techniques for developing and managing financial and human resources. The contrasting roles of staff, volunteers, managers and trustees will be examined to develop an understanding of how each contributes to framing and achieving a nonprofit organization's mission.	10	12
2019-2020	931211	PLANNING AND DEVELOPMENT OF TOURISM	This course explores major concepts in tourism, what makes tourism possible, and how tourism can become an important factor in the development of the economy. Topics covered include introductory principles, study approaches, the importance of tourism, tourism history and careers, elements of tourism supply and demand, planning and development principles, marketing, research, regulation and deregulation, and government agencies affecting development. Upon completion, students will be able to analyze the impact of various facets of the tourism industry.	10	12
2019-2020	931213	PLANNING AND MANAGEMENT OF SPORTS TOURISM AND EVENTS	This course explores major concepts in planning and managing sports events and sports tourism and how sports tourism and sports events can become an important factor in the development of the economy. Topics covered include introductory principles, study approaches, the importance sports tourism and event history and careers, elements of sport management and demand, planning and development principles, marketing, research, regulation and deregulation, and government agencies affecting sports tourism and sporting events. Upon completion, students will be able to analyze the impact of various facets of the sports tourism industry.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931401	INTRODUCTION TO INSTRUMENTATION AND PROCESS CONTROL	This course is an introductory study of the control devices and methods used in industry for the control and transmission of information pertaining to process variables. This study includes an introduction to instrumentation and control mathematics. This course also provides instruction in the fundamental concepts of pressure, level, flow, temperature, and analyticals.	10	12
2019-2020	931402	DC FUNDAMENTALS	This course provides an in depth study of direct current (DC) electronic theory. Topics include atomic theory, magnetism, properties of conductors and insulators, and characteristics of series, parallel, and series-parallel circuits. Inductors and capacitors are introduced and their effects on DC circuits are examined. Students are prepared to analyze complex DC circuits, solve for unknown circuit variables and to use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot DC circuits. Emphasis is placed on the use of scientific calculator and the operation of common test equipment used to analyze and troubleshoot DC and to prove the theories taught during classroom instruction.	10	12
2019-2020	931403	INDUSTRIAL SAFETY	This course provides instruction in general safety related to personal protection, equipment, work area, tools, material handling, electrical, welding and cutting, hazardous materials, fire prevention/fighting, ladder/scaffold, basic tools, and complex and basic rigging.	10	12
2019-2020	931404	BASIC ELECTRICITY	This course provides an introduction to direct current (DC) and alternating current (AC) electrical theory. Topics include atomic theory, magnetism, properties of conductors and insulators, and characteristics of series, parallel, and series-parallel circuits. Inductors and capacitors are introduced and their effects on DC and AC circuits are examined. Students are prepared to analyze complex circuits, solve for unknown circuit variables and use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot electrical circuits. Emphasis is placed on the use of a scientific calculator, the operation of common test equipment, and the physical wiring of electrical circuits.	10	12
2019-2020	931405	MECHANICAL AND STRUCTURAL FUNDAMENTALS	This course provides instruction in the application of basic mechanical and structural fundamentals, blueprint reading, basic sketching, symbol usage and identification, and drawings of mechanical systems. Mechanical schematics, isometric piping, and flow diagrams are discussed and drawn.	10	12
2019-2020	931406	ROTATING MACHINERY AND CONTROLS	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.	10	12
2019-2020	931407	FLUID POWER SYSTEMS	This course is provided instruction in topics ranging from basic physical concepts of machines to component operation and its typical system applications. Included are hydraulic valves, actuators, pumps, motors and their connection in transmission of energy through fluid power systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931408	PRINCIPLES OF ELECTRICITY	This course provides an in depth study of alternating current (AC) electronic theory. Students are prepared to analyze complex AC circuit configurations with resistors, capacitors, and inductors in series and parallel combinations. Topics include electrical safety and lockout procedures, specific AC theory functions such as RLC, impedance, phase relationships, and power factor. Students will be able to define terms, identify waveforms, solve complex mathematical problems, construct circuits, explain circuit characteristics, identify components, and make accurate circuit measurements using appropriate measurement instruments. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems.	10	12
2019-2020	931409	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.	10	12
2019-2020	931410	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	931601	APPLIED ELECTRONIC COMPUTATION	This course is an applied mathematics and algebra course for students in electronics or similar programs. Topics include decimals, fractions, negative numbers, powers and roots, the metric systems, logarithms, applied trigonometry and algebra. Upon completion of this course a student will be able to perform applied mathematics calculations needed in Electronics.	10	12
2019-2020	931602	SURVEY OF ELECTRONICS	This course in a non-technical way, describes the history and applications of electronics in the modern world. Topics include: fundamental concepts of electronics theory, devices, digital and analog circuits, microprocessors, and modern test equipment. Upon completion of this course, a student should be able to describe basic laws and circuit behavior for analog and digital circuits.	10	12
2019-2020	931603	INDUSTRIAL INSTRUMENTATION	This course provides a study of instrumentation circuits/systems. Topics include the use of transducers, detectors, actuators, and/or other devices and equipment in industrial applications. Upon completion, the student should be able to apply principles of instrumentation circuits and systems.	10	12
2019-2020	931604	INDUSTRIAL INSTRUMENTATION LAB	This lab includes the use of transducers, detectors, actuators, and/or other devices and equipment in industrial applications. Upon completion, the student should be able to apply principles of instrumentation circuits and systems.	10	12
2019-2020	931605	CONCEPTS OF DIRECT CURRENT	This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931606	CONCEPTS OF ALTERNATING CURRENT	This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits.	10	12
2019-2020	931607	INTRODUCTION TO INSTRUMENTS AND PROCESS CONTROL	This course is an introductory study of the control devices and methods used in industry for the control and transmission of information pertaining to process variables. This study includes an introduction to instrumentation and control mathematics. This course also provides instruction in the fundamental concepts of pressure, force, weight, motion, liquid level, fluid flow and temperature.	10	12
2019-2020	931608	ELECTRICAL BLUEPRINT READING I	This course will enable the student to obtain to a working knowledge of the elements of blueprint reading; the ability to interpret electrical, mechanical, and architectural drawing; and the ability to visualize the entire building structure in relationship to the electrical system.	10	12
2019-2020	931609	ADVANCED INDUSTRIAL PROCESS CONTROL TECHNOLOGY	This course is an advanced study of the principles governing methods of using process variables in the control of industrial processes. The study includes methods and procedures for measuring, displaying and transmitting process variables according to industry standards. The course also includes an in-depth study of mathematics pertaining to industrial control instruments.	10	12
2019-2020	931610	CONCEPTS OF SOLID STATE ELECTRONICS	This course is an introduction to semiconductor fundamentals and applications to the electronic devices. Course covers the basic operations and applications to include rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personal as well as material and environmental considerations. Upon completion students will be able to construct and test for proper operation of various types of solid state devices.	10	12
2019-2020	931611	CONCEPTS OF DIGITAL ELECTRONICS	This course provides instruction in digital electronics. Topics include: number systems and codes, a review of Boolean algebra, logic elements, digital circuits, programmable logic circuits, and memory and computing circuits. This course provides laboratory exercises to analyze, construct, test and troubleshoot digital circuits.	10	12
2019-2020	931612	CONCEPTS OF ELECTRONIC CIRCUITS	This course covers the commonly utilized circuits found in all areas of electronics. These include various rectifiers, filters, voltage regulating circuits, operational amplifier circuits, ICs, and oscillator circuits. Upon completion students will be able to construct and test various types of electronic circuits.	10	12
2019-2020	931613	INSTRUMENTATION OPERATION AND CALIBRATION	The hardware used to measure and control process variables is presented. The student learns the principles of operation, servicing, maintenance, calibration, and troubleshooting procedures used on mechanical, pneumatic, electronic and digital based industrial transmitters, recorders, controllers, valves, and other control devices. The course is broken down into theory and laboratory work on actual process measuring and control equipment.	10	12
2019-2020	931614	PRINCIPLES OF CONSTRUCTION WIRING	This course provides a study of the technical skills required to safely perform electrical wiring installations. Topics include methods of wiring residential, commercial, and industrial locations. Upon completion, students should be able to apply safe wiring skills to residential, commercial and industrial applications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931615	CONSTRUCTION WIRING NEC	This course provides a study of the codes that is required to safely perform electrical wiring installations. Emphasis will be placed upon the codes that apply to residential, commercial, and industrial locations. Upon completion, students should be able to apply the codes in the electrical wiring of residential, commercial and industrial applications.	10	12
2019-2020	931616	DIGITAL COMMUNICATIONS LAB	This course provides experimentation to verify theories of digital communication. Upon completion of this course and Digital Communications, students should be able to construct various digital communications circuits and make necessary measurements and adjustments.	10	12
2019-2020	931617	MICROCOMPUTER FUNDAMENTALS	This course provides the student with knowledge in installation of, and familiarization with the basic assemblies in microcomputer systems. Topics include DOS, hard drives and floppy drives, dip switches, and RAM. Upon completion, students should be able to use DOS, format hard drives, floppy drives, configure circuit boards functions and install RAM.	10	12
2019-2020	931618	MICROCOMPUTER FUNDAMENTALS LAB	This lab focuses on the installation of basic assemblies in microcomputer systems. Topics include DOS, hard drives and floppy drives, dip switches, and RAM. Upon completion, students should be able to use DOS, format hard drives, floppy drives, configure circuit boards functions and install RAM.	10	12
2019-2020	931619	PERSONAL COMPUTER (PC) HARDWARE	This course covers PC Hardware terminology, component purpose, configuration, pricing and selecting components and systems, for assembling, repairing, and upgrading IBM compatible computers. Upon completion of this course, students should be able to describe the basic systems of a PC and be able to perform disassembly and assembly of same.	10	12
2019-2020	931620	PC SOFTWARE INSTALLATION AND MAINTENANCE	This course will cover installation and maintenance for operating systems and application software on personal computers. Upon completion of this course, students should be able to install and maintain common software packages found on personal computers.	10	12
2019-2020	931621	PERSONAL COMPUTER (PC) PROBLEM DETERMINATION	This course will cover various hardware and software tools for diagnosing failures of personal compatible computers. Upon completion of this course, students should be able to diagnose and prescribe the repair steps for a faulty personal computer.	10	12
2019-2020	931622	ELECTRONIC DRAFTING	This course includes basic drawing techniques, interpreting schematic diagrams and recognizing electronic symbols. Upon completion of this course, students should be able to recognize electronic symbols and draw schematic, layout, and pictorial drawings.	10	12
2019-2020	931623	LOCAL AREA NETWORKS (LANS)	This course provides the student with knowledge of planning, installation, maintenance, and administration of local area networks. Upon completion of this course, students should be able to install and setup a basic local area network.	10	12
2019-2020	931624	INTRODUCTION TO ROBOTIC PROGRAMMING	This course provides an introduction robotic programming. Emphasis is placed on but not limited to the following: Safety, motion programming, creating and editing programs, I/O instructions, macros, program and file storage. Upon completion the student will be able to safely perform basic functions in the work cell as well as program a robot to perform simple functions.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931625	DC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic direct current (DC) electrical principles. Topics include safety, basic atomic structure and theory, magnetism, conductors, insulators, use of Ohm's law to solve for voltage, current, and resistance, electrical sources, power, inductors, and capacitors. Students will perform lockout/tagout procedures, troubleshoot circuits and analyze series, parallel, and combination DC circuits using the electrical laws and basic testing equipment to determine unknown electrical quantities.	10	12
2019-2020	931626	AC FUNDAMENTALS	This course is designed to provide students with a working knowledge of basic alternating current (AC) electrical principles. Topics include basic concepts of electricity, electrical components, basic circuits, measurement instruments, the laws of alternating current, and electrical safety with lockout procedures. Hands on laboratory exercises are provided to analyze various series, parallel, and combination alternating current circuit configurations containing resistors, inductors, and capacitors. Upon course completion, students will be able to describe and explain alternating current circuit fundamentals such as RLC circuits, impedance, phase relationships, and power factors. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems.	10	12
2019-2020	931627	SOLID STATE FUNDAMENTALS	This course provides instruction in basic solid state theory beginning with atomic structure and including devices such as diodes, bipolar transistors, field effect transistors, amplifiers, thyristors, operational amplifiers, oscillator and power supply circuits. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits. This course also provides the opportunity for students to apply the solid-state principles and theories learned in class in the laboratory setting. Emphasis is placed on the practical application of solid-state devices, proper biasing and amplifier circuit analysis and the use of test equipment to diagnose, troubleshoot and repair typical solid-state device circuits.	10	12
2019-2020	931628	DIGITAL FUNDAMENTALS	This course provides instruction on basic logic gates, flip-flops, registers, counters, microprocessor/computer fundamentals, analog to digital conversion, and digital analog conversion. Emphasis is placed on number systems, Boolean algebra, combination logic circuits, sequential logic circuits, and typical microprocessor data manipulation and storage. This course also has an embedded lab with exercises designed to develop skills required by industry. Upon completion, students should be able to analyze digital circuits, draw timing diagrams, determine output of combinational and sequential logic circuits and diagnose and troubleshoot electronic components as well as demonstrate knowledge of microprocessor and computer circuits.	10	12
2019-2020	931629	CIRCUIT FABRICATION I	This course provides instruction in fabrication of functional circuits and is an introduction to device construction and fabrication. Utilizing discrete components, students will fabricate functional circuits. Topics include soldering, cable construction, coaxial cable connection and termination, component mounting, cases, and chassis, printed circuit board design, layout, fabrication, and repair, as well as soldering techniques, care of tools, wire splicing, wire wrapping, connector maintenance, and related shop safety. Upon completion of this course, students should be able to perform basic circuit and project construction.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931630	INDUSTRIAL ELECTRONIC CONTROLS I	This course provides a study of industrial electronics controls. Topics include photo-electric, temperature, gas and humidity, pressure and strain measurements for industrial instrumentation controls and applications. The lab enables students to test, troubleshoot and repair electronic control circuits. Upon completion, students should be able to apply principles of industrial electronics control circuits.	10	12
2019-2020	931631	MOTORS AND TRANSFORMERS I	This course covers motor operation, motor types, motor components, motor feeder and branch circuits. Topics include motor protection and motor control circuits. Upon lab completion students should be able to test motors, transformer types, and test for input and output voltage.	10	12
2019-2020	931632	AC/DC MACHINERY AND CONTROLS I	This course provides the student with knowledge in AC/DC machinery and controls. Topics include the characteristics and operating principles of the different types of AC/DC generators and motors, manual and automatic starters and controllers. The lab enables to students test, troubleshoot and repair AC/DC Machinery and controls. Upon completion, the student will be able to apply practical skills in AC/DC machinery.	10	12
2019-2020	931633	HYDRAULICS/PNEUMATICS	This course provides an introduction to hydraulics/pneumatics. Topics include hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. The lab enables students to test, troubleshoot and repair hydraulic pumps, pneumatic compressors work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. Upon completion, students will be able to apply principles of hydraulic/pneumatics.	10	12
2019-2020	931634	COMPUTER FUNDAMENTALS FOR TECHNOLOGY STUDENTS	This course introduces the students to applications of computers in the laboratory setting. It will cover the computer from a hardware standpoint and introduce the operating system. Application software will include word processing, spreadsheets, database managers, and other electronic related software. Upon completion, students should be able to operate a personal computer in the technical setting.	10	12
2019-2020	931635	WIRELESS COMMUNICATION DEVICES	This course is an introduction course to wireless communication technologies and applications in support of networked structures. Wireless device specification, integration, configuration, and utilization of IEEE 802.11x compliant communication equipment and their integration into the support of WAN and LAN structures commonly found in corporate, industrial, automotive (telematics), or commercial platforms will be the main emphasis of this course. Specific wireless communication theory concerning wireless boundaries, security and encryption methods, and quality of service measurements will be discussed along with WAN/LAN expansion and limitations from a system design prospective.	10	12
2019-2020	931636	CO-OP IN ILT	These courses provide students with relevant work experience in business/industry. Emphasis is placed on production in a work setting. Upon completion, students should be able to identify job responsibilities and to demonstrate skills necessary for entry level employment.	10	12
2019-2020	931637	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.	10	12
2019-2020	931638	TROUBLESHOOTING TECHNIQUES I	This course focuses on the systematic approach to solving problems. Emphasis is placed on the instrument failures and their interaction with process downtime. Upon completion, students will be able to solve problems on a process simulator or in an actual setting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931639	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	931640	MOTOR CONTROLS I	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.	10	12
2019-2020	931641	ELECTRONIC CIRCUITS I	This course covers the commonly utilized circuits found in all areas of electronics. These include the various rectifier, filter, voltage regulating circuits, and linear solid-state amplifier circuits. The entire course emphasizes the typical circuits, their principles of operation, and troubleshooting defective circuits. This course has an embedded lab with laboratory exercises designed to develop the skills listed in the Industry competencies.	10	12
2019-2020	931642	INDUSTRIAL ELECTRONICS	This course covers applications of electronics in the industry with a major emphasis on microprocessors as applied to data acquisition and machine control. Topics include A/D and D/A conversion, signal conditioning, sensors and transducers, control devices, stepper motors, and microprocessor interfacing. Upon completion of this course, students should be able to describe the operation of various sensors, signal conditioning, A/D and D/A conversion, and control devices, as well as, perform necessary calculations.	10	12
2019-2020	931643	INDUSTRIAL ELECTRONICS LAB	This course demonstrates the concepts, devices, and applications of electronics in industrial processes. Upon completion of this course, students should be able to construct, evaluate, and calibrate basic industrial sensing and control circuits.	10	12
2019-2020	931644	BIOMEDICAL ELECTRONICS I	This course includes the technical information necessary in learning to repair biomedical equipment. Topics include: the human body, electrodes and transducers, bioelectric amplifiers, physiological pressure measurements, and electrical and patient safety. Upon completion of this course, students should be able to describe the operation of various circuits and systems commonly found in biomedical equipment.	10	12
2019-2020	931645	BIOMEDICAL ELECTRONICS II	This course combines theory gained from Biomedical Electronics I for a deeper understanding of biomedical equipment troubleshooting. Topics include: respiratory therapy instrumentation, intensive and coronary care unit instrumentation, operating room instrumentation, medical laboratory instrumentation, and electrical safety. Upon completion of this course, students should be able to describe the operation of various circuits and systems commonly found in biomedical equipment.	10	12
2019-2020	931646	MICROPROCESSORS	This course introduces microprocessors and explores their applications. The course emphasizes programming and interfacing the microprocessor chip. Upon completion of this course, students should be able to perform binary arithmetic perform computer arithmetic, describe the basic operation procedures for a microprocessor system, and write programs for a basic microprocessor.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931647	MICROPROCESSORS LAB	This course provides familiarization of microprocessor instruction sets. Experiments in programming and interfacing provide and understanding of microprocessor theory. Upon completion of this course, students should be able to program and interface a basic microprocessor system.	10	12
2019-2020	931648	MOTOR CONTROLS I	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.	10	12
2019-2020	931649	TROUBLESHOOTING TECHNIQUES	This course focuses on the systematic approach to solving problems. Emphasis is placed on instrument failures and their interaction with process down-time. Upon completion, students should be able to solve problems on a process simulator or in an actual setting.	10	12
2019-2020	931650	CONTROLS AND TROUBLESHOOTING FLOW, LEVEL, TEMPERATURE, PRESSURE AND LEVEL PROCESSES	The student is introduced to analog and digital process control systems. The student is also introduced to process control techniques commonly found in industrial processes used to maintain control of process variables. The student gains knowledge and experience in the design and selection of equipment used in troubleshooting of control loops on actual lab equipment.	10	12
2019-2020	931651	PLC MONITORING AND CONTROL OF INSTRUMENTATION PROCESS VARIABLES	The student is introduced to analog and digital PLC process control systems. The student is also introduced to networking PLC and using gateways to interface to Ethernet type devices. The student gains knowledge and experience in the design and selection of PLC equipment used in control, troubleshooting, and monitoring control loops on actual equipment in the lab.	10	12
2019-2020	931652	INDUSTRIAL ROBOTICS	This course covers principles of electro-mechanical devices. Topics include the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion, students should be able to apply the principles of electro-mechanical devices.	10	12
2019-2020	931653	INDUSTRIAL ROBOTICS LAB	This lab covers the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion students should be able to apply the principles of electro-mechanical devices.	10	12
2019-2020	931654	INDUSTRIAL ROBOTICS CONCEPTS	This course provides instruction in concepts and theories for the operation of robotic servo motors and power systems used with industrial robotic equipment. Emphasis is on the application of the computer to control power systems to perform work. Student competencies include understanding of the functions of hydraulic, pneumatic, and electrical power system components, ability to read and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance.	10	12
2019-2020	931655	ELECTRO-OPTICS	This course provides a study of fiber optics principles. Topics include optical components, the physics of light, radiation measurements, fiber optic applications, light sources, optic receivers, transmitters and sensors, fiber optic systems, data transfer systems concepts, and systems troubleshooting. Upon completion, students should be able to apply principles of fiber optics.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931656	ELECTRO-OPTICS LAB	This lab enables students to apply principles of fiber optics.	10	12
2019-2020	931657	ADVANCED ELECTRONIC CIRCUITS	This course provides a study of advanced electronic circuits. Topics are designed to explain circuits using solid state devices in a variety of circuit configurations, biasing, and classes of amplifier operations. Upon completion, students will be able to design bipolar and unipolar transistors, thyristors, optoelectronics devices, and integrated circuits.	10	12
2019-2020	931658	ELECTRONIC COMMUNICATIONS	This course provides the student with knowledge in electronic circuits used in amplitude, frequency, and phase modulation communication systems. Topics include modulation and detection techniques, antennas and transmission lines. Upon completion, students should be able to apply principles of filters, oscillators, classes of amplifiers, and resonance.	10	12
2019-2020	931659	ELECTRONIC COMMUNICATIONS LAB	This lab focuses on electronic circuits used in amplitude, frequency, and phase modulation communication systems. Topics include modulation and detection techniques, antennas and transmission lines. Upon completion, students should be able to apply principles of filters, oscillators, classes of amplifiers, and resonance.	10	12
2019-2020	931660	NATIONAL ELECTRIC CODE	This course provides in-depth study of safety procedures according to the National Electrical Code. Topics include residential, commercial, and industrial wiring procedures. Upon completion, students should be able to apply principles of National Electrical Code Manual to specific residential, commercial, and industrial applications.	10	12
2019-2020	931661	FCC GENERAL RADIOTELEPHONE LICENSE PROP	This course includes the information necessary for the successful completion of the Federal Communication Commission's General Radiotelephone License Examination. A comprehensive coverage of rules, regulations, and electronic theory is accomplished. Upon completion of this course, students should understand the preparation necessary to successfully complete the exam process.	10	12
2019-2020	931662	PC REPAIR	This course covers the repair of personal computers including hardware and software problems. Proper procedures for circuit card handling and replacement, installation of various drives and installation of software are covered. This course helps prepare the student for the A+ certification. Upon completion of this course, the student should be able to explain the proper procedures used in handling and replacing circuit cards, drives, memory and installing software.	10	12
2019-2020	931663	COMPUTER REPAIR LAB	This course allows the student to practice using the proper procedure discussed in the theory course. Students will repair computers following the proper procedures covered. This course will help prepare the student for the A+ certification. Upon completion of this course, the student should be able to repair a personal computer.	10	12
2019-2020	931664	NATIONAL ELECTRIC CODE	This course introduces students to the National Electric Code. Emphasis is placed on locating and interpreting needed information within the NEC code manual. Upon completion of this course, the student should be able to locate code requirements for a specific electrical installation.	10	12
2019-2020	931665	MICROPROCESSOR SYSTEMS TROUBLESHOOTING	This course provides familiarization with various techniques and test equipment required for troubleshooting microprocessor based designs to the component and module level. It provides hands on experience troubleshooting microcomputer trainers designed for fault insertion or in an actual setting. Upon completion, students will be able to troubleshoot a faulty microprocessor based system.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931666	PRINCIPLES OF ROBOTIC SYSTEMS	This course is an overview of basic robotic systems and classifications used in industry. An emphasis is placed on safety elements particular to automation. Topics include the principles and concepts associated with robotic system components. Upon completing this course, students should be able to classify robots and explain the various components of a safe robotic system and how these components interact.	10	12
2019-2020	931667	PRINCIPLES OF ROBOTIC PROGRAMMING	This course covers the basic techniques used to write, execute, test, and modify a basic robotic program for an application-specific operation. Topics covered are related safety, robotic systems, computer terminal programming, teach pendant programming, and input/output interfacing. Upon completion, a student should be able to write, test, and evaluate a robotic program.	10	12
2019-2020	931668	NETWORK CABLING - COPPER	This course involves presentations, discussions and live simulations of work related experiences involved in data, voice, and video infrastructure. Students learn to terminate, test, troubleshoot, and install copper-based cabling systems. They learn category 5 systems, IBM cabling systems, and coaxial systems. This course helps prepare students for certification as Network Cabling specialists.	10	12
2019-2020	931669	CERTIFICATION PREPARATION	This course includes the review necessary before attempting technician certification examinations given by various non-government certifying organizations and pre-employment tests given by employers. Upon completion of this course students should understand the preparations necessary to successfully complete the exam process.	10	12
2019-2020	931670	SENSORS TECHNOLOGY AND APPLICATIONS	This course provides a study of industrial electronic sensors. Topics include, but are not limited to, photo-electric, temperature, gas and humidity, pressure and strain sensors. The lab enables students to test, and troubleshoot electronic sensors and sensor circuits. Upon completion, students should be able to select, install, test, and troubleshoot industrial electronic sensors.	10	12
2019-2020	931671	BIOMEDICAL EQUIPMENT CALIBRATION AND REPAIR I	This course focuses on the technical information and hands on experimental labs to prepare the student to calibrate and repair various types of biomedical equipment commonly used in hospitals and allied health facilities. Emphasis is placed on equipment measurement accuracy, safety, calibration procedures, and troubleshooting. This course, when successfully completed, will contribute toward a biomedical technician certification.	10	12
2019-2020	931672	VISUAL BASIC FOR TECHNOLOGY APPLICATIONS	This Visual Basic course will focus on object oriented programming structures within the Visual Basic.Net language. This course is specifically designed for industrial technology students that will integrate servers and communication devices into WANs, LANs, or server based networked industrial processes. Emphasis of this course is on web based application programming including server and client configuration script file generation and application, mobile device language and control modules, industrial graphical and control modules, and server to server web based applications.	10	12
2019-2020	931673	RF COMMUNICATIONS	This course provides a study of the transmission and receiving of analog communication signals that are used in radio, television, and radio frequency (R.F.) communication applications. Emphasis is placed on circuits that produce, transmit, and receive RF signals used in radio, television, and RF communication. Upon completion, students will be able to apply RF communication principles in the transmission and receiving of radio, television, and RF communication signals.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931674	DIGITAL COMMUNICATIONS	This course provides a study of the transmission and receiving digital communication signals that are used in radio, television, and digital communication applications. Emphasis is placed on circuits that produce, transmit, and receive digital signals used in radio, television, and digital communication. Upon completion, students will be able to apply digital communication principles in the transmission and receiving of radio, television, and digital communication signals.	10	12
2019-2020	931675	CERTIFICATION PREPARATION	This course provides an overview of electrical/electronics principles to prepare the student for the CET exam. Upon completion, students should be able to pass the CET exam and be classified as a national certified electronic technician.	10	12
2019-2020	931676	CERTIFICATION PREP LAB	This course prepares students to sit for industry certification examinations and is to be taken in the final semester of the program. The course may be repeated to prepare students for different certification examinations as determined by the college.	10	12
2019-2020	931677	RF COMMUNICATIONS	This course introduces the concepts of communications systems. Topics include: communications fundamentals, AM transmitters and receivers, FM transmitters and receivers, AM and FM transceivers, pulse modulation, antenna design, and advanced communication systems. Upon completion, students should be able to describe the operation of various RF circuits and calculate all parameters.	10	12
2019-2020	931678	RF COMMUNICATIONS LAB	This course verifies basic radio frequency theories through experimentation. Upon completion of this course and RF Communications, the student should be able to construct various RF circuits and make necessary measurements and adjustments.	10	12
2019-2020	931679	INTRODUCTION TO NETWORKING	This course is a study of the basic concepts of LAN and WAN. Topics include topologies, media, computer hardware and software used in networking. Network administrative procedures and security techniques will be introduced and observed.	10	12
2019-2020	931680	INTRODUCTION TO NETWORKING LAB	This course provides students the working knowledge of networks by installing a LAN including cables and other hardware, as well as software. Planning and implementation of the network will be documented using current networking standards. This is designed to introduce students to the hands-on procedures for basic network setup.	10	12
2019-2020	931681	INDEPENDENT STUDY	This course is designed to allow students to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, students should be able to perform specific job related functions according to standard operating procedures.	10	12
2019-2020	931682	INDEPENDENT STUDY	This course is designed to allow students to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, students should be able to perform specific job related functions according to standard operating procedures.	10	12
2019-2020	931683	ELEMENTS OF INDUSTRIAL CONTROL II	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931684	ELEMENTS OF INDUSTRIAL CONTROL II LAB	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	931685	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	931686	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	931687	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	931688	BIOMEDICAL ELECTRONICS CLINICAL I	Student will be assigned to a local hospital facility, working in the technical capacity as a biomedical electronic technician trainee. Upon completion of this course, students have gained experience as a biomedical equipment technician.	10	12
2019-2020	931689	BIOMEDICAL ELECTRONICS CLINICAL II	Continuation of Clinical On-site Study I. Assigned to local hospital facility, working in the technical capacity as a biomedical electronic technician trainee. Upon completion of this course, students have gained experience as a biomedical equipment technician.	10	12
2019-2020	931801	ELEMENTS OF COLOR AND DESIGN	This course presents the fundamentals of floral design. Topics include safety, tools, equipment, historical background, and basic design techniques. Upon completion, students should recognize basic floral design, techniques, and should be able to apply safety rules.	10	12
2019-2020	931802	INTRODUCTION TO FLORAL DESIGN	This course presents the fundamentals of floral design. Topics include safety, tools, equipment, historical background, and basic design techniques. Upon completion, students should recognize basic floral design, techniques, and should be able to apply safety rules.	10	12
2019-2020	931803	FLORAL ARRANGEMENT	This course focuses on the design and construction of floral arrangements. Topics include materials, containers, and other design elements. Upon completion, students will be able to determine the materials and procedures needed for creating a wide variety of floral arrangements.	10	12
2019-2020	931804	VISUAL MERCHANDISING	This course introduces the visual aspects of merchandising, including the elements, techniques, and equipment used in developing successful displays and their impact on the potential customer. Topics include visual merchandising concepts, careers, and exterior, interior and window display construction, emphasis is placed on the application of principles and elements of design using materials, mannequins and other display items. Upon completion, students should be able to plan, prepare, select, and setup any type of display for a specific promotion or setting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	931805	WEDDING ARRANGEMENTS DESIGN	This course is a study of the principles, methodology, and manipulative skills necessary for successfully completing all wedding arrangements. Topics include placing orders, rehearsals, bouquets, selection and design of corsage, and decorations for the wedding area. Upon completion of this course, students should be able to plan all phases of wedding arrangements.	10	12
2019-2020	931806	SPECIAL EVENTS AND BUSINESS PRACTICES	This course focuses on all phases of special events, designs, and business practices. Topics include sympathy and other specialty designs, billing the customer, sending and receiving orders, telephone manners, and customer relations. Upon completion of this course, students should understand principles of special events, floral designs, and should be able to demonstrate appropriate business practices.	10	12
2019-2020	931807	FLORAL DESIGN APPLICATIONS	This course is an application of INN 111. Emphasis is placed on basic floral design techniques. Upon completion, student should be able to create basic floral arrangements.	10	12
2019-2020	931808	FLORAL ARRANGEMENT APPLICATIONS	This course is an application of INN 121. Emphasis is on applying design techniques in creating floral arrangements. Upon completion, students should be able to design and create a wide variety of floral arrangements.	10	12
2019-2020	931809	WEDDING ARRANGEMENTS APPLICATIONS	This course is an application of INN 131. Emphasis is on applying practices related to wedding arrangements. Upon completion of this course, students should be able to design and create wedding arrangements.	10	12
2019-2020	931810	SPECIAL EVENTS AND BUSINESS PRACTICES APPLICATIONS LAB	This course is an application of INN 141. Emphasis is on applying practices related to special events. Upon completion of this course, students should be able to design and create floral arrangements for a variety of special events.	10	12
2019-2020	932001	MATHEMATICS FOR INDUSTRIAL TECHNICIANS	This course is designed to provide an understanding of basic mathematical concepts used in an industrial setting. Topics include the arithmetic of whole numbers, fractions, and decimals; basic ration, proportion, and percent; application problems in industrial maintenance.	10	12
2019-2020	932002	DC FUNDAMENTALS	This course provides an in depth study of direct current (DC) electronic theory. Topics include atomic theory, magnetism, properties of conductors and insulators, and characteristics of series, parallel, and series-parallel circuits. Inductors and capacitors are introduced and their effects on DC circuits are examined. Students are prepared to analyze complex DC circuits, solve for unknown circuit variables and to use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot DC circuits. Emphasis is placed on the use of scientific calculator and the operation of common test equipment used to analyze and troubleshoot DC and to prove the theories taught during classroom instruction.	10	12
2019-2020	932003	INDUSTRIAL MAINTENANCE CUTTING/WELDING	This course provides instruction in the fundamentals of acetylene cutting and the basic SMAW (stick) welding. Topics covered are acetylene torch cutting equipment, safety and use; welding safety, welding hand tools type of welding machines and welding rods, determining types of metal, welding passes, beads, and joints.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932004	AC FUNDAMENTALS	This course provides an in depth study of alternating current (AC) electronic theory. Students are prepared to analyze complex AC circuit configurations with resistors, capacitors, and inductors in series and parallel combinations. Topics include electrical safety and lockout procedures, specific AC theory functions such as RLC, impedance, phase relationships, and power factor. Students will be able to define terms, identify waveforms, solve complex mathematical problems, construct circuits, explain circuit characteristics, identify components, and make accurate circuit measurements using appropriate measurement instruments. They should also be able to perform fundamental tasks associated with troubleshooting, repairing, and maintaining industrial AC systems.	10	12
2019-2020	932005	PRINCIPLES OF TECHNOLOGY	This course provides an introduction to the application of the principles of physics in technology. Topics include fundamentals of mechanics, properties of matter, heat and temperature, electricity and magnetism, optics and modern physics.	10	12
2019-2020	932006	INTRODUCTION TO PROCESS TECHNOLOGY	This course is designed to provide students with an introduction to process control technology and various instruments used to control processes. Upon completion, students should be able to comprehend principles of process control technology and the application of various instruments used to control processes in an industrial setting.	10	12
2019-2020	932007	ELEMENTS OF INDUSTRIAL MECHANICS	This course provides instruction in basic physics concepts applicable to industrial mechanics. Topics include mechanical principles with emphasis placed on power transmission and specific mechanical components. Upon course completion, students will be able to apply principles relative to mechanical tools, fasteners, basic mechanics, lubrication, bearings, packing and seals.	10	12
2019-2020	932008	FUNDAMENTALS OF ELECTRICITY I	This theory based course provides students with knowledge of basic electrical theory and the use of basic instruments to measure electricity. It is a foundational course to enable multicraft industrial maintenance personnel to develop basic knowledge of electricity in a workplace.	10	12
2019-2020	932009	FUNDAMENTALS OF ELECTRICITY II	This course provides students with knowledge and skills of how to read and interpret electric circuits, how to wire electrical connections, and how to identify faults in electrical motors and controls. It is a foundational course to enable multicraft industrial maintenance personnel to apply knowledge and skill of electricity in a workplace.	10	12
2019-2020	932010	COMPONENTS OF MATERIAL HANDLING	This course focuses on the different modes of handling manufactured goods or products. Topics include the installation, operation, and maintenance of the material handling process components. Emphasis is placed on determining control limits, performing scheduled maintenance, and troubleshooting performance or function failures. Upon completion, students should be able to install, operate, monitor, maintain and troubleshoot a simulated material handling system.	10	12
2019-2020	932011	AUTOMATED MATERIAL HANDLING	This course focuses on the automatic function and control of different modes of handling manufactured goods or products. Topics include the development of a simulated condition of control parameters with-in the material handling process, determining control limits, and performing root cause analysis. Upon completion, students should be able to write start-up and shut-down procedures, operate, monitor, and control plant material handling systems at the system wide level.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932012	INDUSTRIAL MAINTENANCE SAFETY PROCEDURES	This course is an in-depth study of the health and safety practices required for maintenance of industrial production equipment. Topics include traffic, ladder, electrical, and fire safety, safe work in confined spaces, electrical and mechanical lock-out procedures, emergency procedures, OSHA regulations, MSDS Right-to-Know law, hazardous materials safety, and safety equipment use and care. Upon course completion, students will be able to implement health and safety practices in an industrial production setting.	10	12
2019-2020	932013	INDUSTRIAL MOTOR CONTROL I	This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, interpret ladder diagrams using pushbutton stations and understand complex motor control diagrams.	10	12
2019-2020	932014	BASIC ELECTRICITY	This course provides an introduction to direct current (DC) and alternating current (AC) electrical theory. Topics include atomic theory, magnetism, properties of conductors and insulators, and characteristics of series, parallel, and series-parallel circuits. Inductors and capacitors are introduced and their effects on DC and AC circuits are examined. Students are prepared to analyze complex circuits, solve for unknown circuit variables and use basic electronic test equipment. This course also provides hands on laboratory exercises to analyze, construct, test, and troubleshoot electrical circuits. Emphasis is placed on the use of a scientific calculator, the operation of common test equipment, and the physical wiring of electrical circuits.	10	12
2019-2020	932015	LEVEL AND PRESSURE DEVICES	This course focuses on craft-related mathematics and process control theory. Topics include elements, transistors, transducers, displacers, controllers, recorders, control valves, actuating and electrical devices. Upon completion, students should be able to understand process control theory and apply the related calculations.	10	12
2019-2020	932016	FLOW AND TEMPERATURE DEVICES	This course provides the student with practical experience in process control theory. Emphasis is placed on connecting and calibrating transistors, transducers, displacers, controllers, recorders, control valves, actuating and electrical devices. Upon completion, students should be able to install industrial measurement devices.	10	12
2019-2020	932017	PRINCIPLES OF INDUSTRIAL MECHANICS	This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment. Topics include the basic application of mechanical principles with emphasis on power transmission, specific mechanical components, alignment, and tension. Upon completion, students will be able to perform basic troubleshooting, repair and maintenance functions on industrial production equipment.	10	12
2019-2020	932018	FUNDAMENTALS OF INDUSTRIAL HYDRAULICS AND PNEUMATICS	This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive maintenance and the application of these concepts to perform work. Upon completion, students should be able to service and perform preventive maintenance functions on hydraulic and pneumatic systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932019	PRINCIPLES OF MECHANICAL MEASUREMENT AND TECHNICAL DRAWING	This course provides instruction in the use of precision measuring tools and the interpretation of technical drawings. Topics include the use of calipers, micrometers, steel rules, dial indicators, identifying types of lines and symbols of technical drawings, recognition and interpretation of various types of views, tolerances, and dimensions. Upon course completion, students will be able to use precision measuring tools and interpret technical drawings.	10	12
2019-2020	932020	CONCEPTS OF DIRECT CURRENT	This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction.	10	12
2019-2020	932021	INDUSTRIAL HYDRAULICS TROUBLESHOOTING	This course provides instruction in maintenance and troubleshooting procedures needed for safe and proper repair of hydraulic systems used with industrial production equipment. Topics include maintenance and troubleshooting procedures, hydraulic system maintenance and troubleshooting techniques, effects of heat, leakage, and contamination on components and system operation, component maintenance and troubleshooting, reading and interpreting system diagrams, and design and troubleshooting of hydraulic circuits and systems. Upon course completion, students will demonstrate the ability to troubleshoot and repair industrial hydraulic systems.	10	12
2019-2020	932022	CONCEPTS OF ALTERNATING CURRENT	This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits.	10	12
2019-2020	932023	CONCEPTS OF SOLID STATE ELECTRONICS	This course is an introduction to semiconductor fundamentals and applications to electronic devices. It covers the basic operations and applications of rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personnel as well as material and environmental considerations. Upon completion students will be able to construct and test for proper operation of various types of solid state devices.	10	12
2019-2020	932024	PRODUCTION EQUIPMENT LAYOUT AND INSTALLATION	This course provides instruction in the layout and installation of production equipment and the use of rigging and installation tools. Topics include the use of wire rope, chain and metal-mesh, and fiber rope and webbing slings, industrial hoists and cranes, crane operation, scaffolds and ladders, machine anchoring for vibration control, moving and setting new equipment, leveling and alignment, preparing equipment for test run, test run guidelines, and safety precautions. Upon course completion, students will be able to install production equipment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932025	INDUSTRIAL PRODUCT TRANSFER SYSTEMS-COMPONENTS AND CONTROLS	This course covers the construction and repair of welded and screwed metal piping systems, including a variety of manual and fluid power operated valving used in regulating and throttling the flow of industrial products. This course also covers the installation, service and repair of pumps used in process industries to transfer these products from their raw state to the final product.	10	12
2019-2020	932026	PREVENTIVE MAINTENANCE	This course focuses on the concepts and applications of preventive maintenance. Topics include the introduction of alignment equipment, job safety, tool safety, preventive maintenance concepts, procedures, tasks, and predictive maintenance concepts. Upon course completion, students will demonstrate the ability to apply proper preventive maintenance and explain predictive maintenance concepts.	10	12
2019-2020	932027	PRINCIPLES OF INDUSTRIAL PUMPS AND PIPING SYSTEMS	This course provides instruction in the fundamental concepts of industrial pumps and piping systems. Topics include pump identification, operation, and installation, maintenance and troubleshooting, and piping systems, and their installation. Upon course completion, students will be able to install, maintain, and troubleshoot industrial pumps and piping systems.	10	12
2019-2020	932028	PRINCIPLES OF INDUSTRIAL ENVIRONMENTAL CONTROLS	This course focuses on basic knowledge and skills to service perform routine troubleshooting, maintenance, and adjustments of HVACR systems in an industrial environment. After completion, students will be able to perform routine, low-level maintenance on institutional environmental systems. Additionally, students receive instruction to complete the EPA 608 certification examination.	10	12
2019-2020	932029	INDUSTRIAL SAFETY AND MAINTENANCE TECHNIQUES	This course provides instruction in basic maintenance techniques and safety. Topics include drawing, sketching, basic hand tools, portable power tools, stationary power tools, measurement, screw threads, mechanical fasteners, machinery and equipment installation, rigging, and their proper safe operations.	10	12
2019-2020	932030	CONCEPTS OF DIGITAL ELECTRONICS	This course provides instruction in digital electronics. Topics include: number systems and codes, a review of Boolean algebra, logic elements, digital circuits, programmable logic circuits, and memory and computing circuits. This course provides laboratory exercises to analyze, construct, test and troubleshoot digital circuits.	10	12
2019-2020	932031	CONCEPTS OF ELECTRONIC CIRCUITS	This course covers the commonly utilized circuits found in all areas of electronics. These include various rectifiers, filters, voltage regulating circuits, operational amplifier circuits, ICs, and oscillator circuits. Upon completion students will be able to construct and test various types of electronic circuits.	10	12
2019-2020	932032	PREVENTIVE AND PREDICTIVE MAINTENANCE	This course focuses on the concepts and applications of preventive and predictive maintenance. Topics include the introduction to optic alignment equipment, vibration testing and analysis, data collection, job safety, tool safety, systems analysis, preventive maintenance procedures and tasks, and predictive maintenance concepts. Upon completion, students will demonstrate the ability to apply the planning process for proper preventive and predictive maintenance.	10	12
2019-2020	932033	PRINCIPLES OF INDUSTRIAL MAINTENANCE WELDING AND METAL CUTTING TECHNIQUES	This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the maintenance and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting plate and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon course completion, students will demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932034	INTRODUCTION TO ROBOTIC PROGRAMMING	This course provides an introduction robotic programming. Emphasis is placed on but not limited to the following: Safety, motion programming, creating and editing programs, I/O instructions, macros, program and file storage. Upon completion the student will be able to safely perform basic functions in the work cell as well as program a robot to perform simple functions.	10	12
2019-2020	932035	PRECISION MACHINING FUNDAMENTALS I	This course focuses on metal cutting machines used to make parts and tools. Topics include lathes, mills, drills, and presses. Upon course completion, students will have the ability to use precision measurement instruments and to read mechanical drawings.	10	12
2019-2020	932036	INDUSTRIAL WIRING I	This course focuses on principles and applications of commercial and industrial wiring. Topics include, electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles.	10	12
2019-2020	932037	BLUEPRINT READING FOR INDUSTRIAL TECHNICIANS	This course is designed to provide the student a comprehensive understanding of blueprint reading. Topics include identifying types of lines and symbols used in mechanical drawings; recognition and interpretation of various types of views, tolerance, and dimensions.	10	12
2019-2020	932038	ELEMENTS OF INDUSTRIAL CONTROL	This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated lab a student will be able to configure and program a PLC.	10	12
2019-2020	932039	ELEMENTS OF INDUSTRIAL CONTROL LAB	This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated theory course a student should be able to configure and program a PLC.	10	12
2019-2020	932040	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.	10	12
2019-2020	932041	INDUSTRIAL MAINTENANCE TECHNOLOGY CO-OP	In this series of courses, students work on a part-time basis in a job directly related to Industrial Maintenance Technology. The employer evaluates the student's performance and the student submits a descriptive report of his or her work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	932042	INDUSTRIAL MAINTENANCE TECHNOLOGY CO-OP	In this series of courses, students work on a part-time basis in a job directly related to Industrial Maintenance Technology. The employer evaluates the student's performance and the student submits a descriptive report of his or her work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	932043	INDUSTRIAL MOTORS I	This course focuses on basic information regarding industrial electrical motors. Upon completion students will be able to troubleshoot, remove, replace, and perform routine maintenance on various types of motors.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932044	INDUSTRIAL AUTOMATIC CONTROLS	This course focuses on the function of automatic controllers in different modes: on-off, proportional, reset, derivative, ratio, and cascade. Topics include operation of pneumatic, electronic, and computer process control equipment; service of basic process equipment and instrumentation; correct operation and maintenance of valves and pumps; recognizing patterns from data; developing and interpreting control charts; determining control limits; and performing root cause analysis. Upon completion, students should be able to write start-up and shut-down procedures, operate, monitor, and control continuous and batch model plants.	10	12
2019-2020	932045	ADVANCED PROCESS SIMULATION	Upon completion, students will be able to demonstrate their ability to develop programs, load programs into real-world PLCs, and troubleshoot the system if necessary. Emphasis is placed on analog programming, designing complete working systems, start-up and troubleshooting techniques, and special projects. Topics include plant safety, piping and instrument diagrams, pressures, levels, flows and temperature, and loops designed to function in real time.	10	12
2019-2020	932046	DISTRIBUTED CONTROL SYSTEMS	This course focuses on distributed control systems as used in the modern industrial plant, the interfacing of digital and analog signals from field devices to computers, and current trends in SMART devices. Topics include reports and interfacing of equipment with the distributed control system, preventive maintenance and service to processes, and equipment and instrumentation on process models. Upon completion, students should be able to operate, monitor, and control continuous and batch processes using the distributed control system.	10	12
2019-2020	932047	DISTRIBUTED CONTROL SYSTEMS LAB	This course provides the student with practical experience related to distributed control systems. Topics include interfacing, maintenance and service on process models. Upon completion, students should be able to operate, monitor and control a distributed control system.	10	12
2019-2020	932048	INDUSTRIAL MOTORS II	This course focuses on advanced information regarding industrial electrical motors. Upon completion students will be able to troubleshoot, remove, replace, and perform advanced maintenance on various types of motors.	10	12
2019-2020	932049	INDUSTRIAL MOTOR CONTROL II	This course is a continuation of INT 113 focusing on additional theory and practice regarding industrial motor control schematics and wiring. Included are multispeed and softstart wiring techniques for industrial motors and synchronous motor control. The student will also be exposed to the theory, setup and programming of variable speed drives. Upon completion students will be able to remove, replace, and wire different types of resistors, reactors and transformers similar to those used in the control of industrial polyphase motors and large DC motors.	10	12
2019-2020	932050	TROUBLESHOOTING TECHNIQUES	This course is designed to allow students an opportunity to study directly-related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, students should be able to solve job related problems using technical skills and knowledge.	10	12
2019-2020	932051	SPECIAL LAB IN HYDRAULICS AND PNEUMATICS	This course provides specialized instruction in maintaining and troubleshooting Hydraulic and Pneumatic systems. Topics include safe component removal and installation, schematic reading and diagramming, and theoretical calculations.	10	12
2019-2020	932052	MANUFACTURING PLANT UTILITIES	This course focuses on the theory of operating and maintaining plant utilities. Topics include the operation/ control and maintenance of boilers, HVAC systems, and air compressors. Upon course completion, students will demonstrate the ability to repair and maintain utilities systems in an industrial setting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932053	VARIABLE SPEED MOTOR DRIVES	This course provides instruction in the fundamentals of variable speed drives, industrial motors, and other applications of variable speed drives. Topics include fundamentals of variable speed control, AC frequency drives, DC variable speed drives, installation procedures, and ranges. Upon course completion, students will understand the principles of operation of variable speed drive systems, function of components of each system, set-up and installation and troubleshooting techniques for variable speed drives.	10	12
2019-2020	932054	INDUSTRIAL ROBOTICS	This course provides instruction in concepts and theories for the operation of robotic servo motors and power systems used with industrial robotic equipment. Emphasis is on the application of the computer to control power systems to perform work. Student competencies include understanding of the functions of hydraulic, pneumatic, and electrical power system components, ability to read and interpret circuitry for proper troubleshooting and ability to perform preventative maintenance.	10	12
2019-2020	932055	ROBOT MAINTENANCE AND TROUBLESHOOTING	This course introduces principle concepts troubleshooting and maintenance of robots. Topics include Recognize and describe major robot component. Students will learn to diagnose robot mechanical problems to the component level, replacement of mechanical components and perform adjustments, troubleshooting class 1, 2, and 3 faults, to manipulate I/O for the robot, and periodic and preventive maintenance. Students will learn how to safely power up robots for complete shutdown and how to manipulate robots using the teach pendant. Upon completion students will be able to describe the various robot classifications, characteristics, explain system operations of simple robots, and maintain robotic systems.	10	12
2019-2020	932056	INDEPENDENT STUDY	This course is designed to allow students to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, students should be able to perform specific job related functions according to standard operating procedures.	10	12
2019-2020	932057	INDEPENDENT STUDY	This course is designed to allow students to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, students should be able to perform specific job related functions according to standard operating procedures.	10	12
2019-2020	932058	INDEPENDENT STUDY	This course is designed to allow students to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, students should be able to perform specific job related functions according to standard operating procedures.	10	12
2019-2020	932059	INDEPENDENT STUDY	This course is designed to allow students to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, students should be able to perform specific job related functions according to standard operating procedures.	10	12
2019-2020	932060	ELEMENTS OF INDUSTRIAL CONTROL II	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	932061	ELEMENTS OF INDUSTRIAL CONTROL II LAB	This course includes the advanced principals of PLC's including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932062	ADVANCED PROGRAMMABLE LOGIC CONTROLLERS	This course includes the advanced principals of PLC's including hardware, programming, and troubleshooting. Emphasis is placed on developing advanced working programs, and troubleshooting hardware and software communication problems. Upon completion, students should be able to demonstrate their ability in developing programs and troubleshooting the system.	10	12
2019-2020	932063	APPLIED PRINCIPLES OF PROGRAMMABLE CONTROLLERS	This course provides a comprehensive study in the theory and application of specific models of programmable logic controllers. Topics include hardware configuration, memory and addressing detail function of software, instruction types, system troubleshooting, and simple programming techniques.	10	12
2019-2020	932064	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932065	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932066	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932067	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932068	COOPERATIVE EDUCATION	This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932201	INTRODUCTION TO PROCESS TECHNOLOGY	This course is designed to introduce the student to industry processes and the role of the technician in the chemical industry. Subjects include basic workplace and general plant skills, plant safety, piping and instrument diagrams, pressures, levels, flows, temperatures, basic hardware such as valves, pumps, heat exchangers and distillation, and basic process control theory. Upon completion, students will have a basic understanding of the role of the process technician in the chemical industry.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932202	INDUSTRIAL PROCESS EQUIPMENT	In this course, students learn how pneumatic, mechanical, and electronic equipment is used in the process industry. Subjects covered include the operation of the pilot plant, basic plant maintenance skills, basic tool safety, calibrations and equipment preventive maintenance, unit conversions, calculation or ratios, maintenance of logs and notes concerning plan operation. Upon completion, students will be able to maintain logs on the operation of the process models, calibrate and adjust pneumatic, mechanical, and electronic equipment, work independently and in teams, and demonstrate an ability to work under pressure and time constraints in solving problems and taking lab tests.	10	12
2019-2020	932203	INDUSTRIAL MEASUREMENTS	Methods of measuring flow, level, temperature, pressure and moisture, as well as pH and other analyzers are covered. Subjects include correct and safe operation of test equipment, test equipment set-up, calibration, operation of electronics measuring devices, loop simulation, equipment used in the measurement of basic process variables, P&ID diagrams, and loop sheets. Upon completion, students will demonstrate the ability to calibrate and operate basic pressure, level, temperature, low, and analytical devices and will also have a basic understanding of P&ID diagrams.	10	12
2019-2020	932204	INTRODUCTION TO INSTRUMENTATION TECHNOLOGY	This course introduces various hand and power tools, basic blueprint reading, basic rigging and basic math that will be used in the electronic, instrumentation and electrical trades. Emphasis is placed on basic hand tool and power tool safety and procedures for selecting, inspecting, using and maintaining these tools. Upon completion, students should be able to identify and use various hand and power tools, read a blueprint and know how to perform basic rigging.	10	12
2019-2020	932205	PRINCIPLES OF AUTOMATIC CONTROL	Students learn how automatic controllers work and operate and the importance of automation in the modern process industry. Subjects covered include PID control (pneumatic, electronic, and D.C.S. systems), Ziegler-Nichols tuning, controller operation and tuning for different process variables, cascade loops, correct operation and maintenance of valves and pumps, correct valve and piping sizing, basic tubing and pipe fitting. Upon completion, students will be able to tune and control a process in automatic as well as understand the operation of control loops (input, decision, and action), and all the equipment involved in the process.	10	12
2019-2020	932206	INTRODUCTION TO INSTRUMENTS AND PROCESS CONTROL	This course is an introductory study of the control devices and methods used in industry for the control and transmission of information pertaining to process variables. This study includes an introduction to instrumentation and control mathematics. This course also provides instruction in the fundamental concepts of pressure, force, weight, motion, liquid level, fluid flow and temperature.	10	12
2019-2020	932207	INSTRUMENTATION OPERATION AND CALIBRATION	The hardware used to measure and control process variables is presented. The student learns the principles of operation, servicing, maintenance, calibration, and troubleshooting procedures used on mechanical, pneumatic, electronic and digital based industrial transmitters, recorders, controllers, valves, and other control devices. The course is broken down into theory and laboratory work on actual process measuring and control equipment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932208	UNIT OPERATION	This course acquaints students with basic processes used in the chemical industry by operation of the pilot plants at the college and extensive plant tours to local industries. Subjects covered include pilot plant operation of the most common process variables, operation of basic plant equipment (distillation, heat exchangers, and boilers), plant safety, workplace and plant skills, plant tours, special assignments related to the operation of the specific unit or plant visited. Upon completion, students will be able to operate the pilot plants at the college and demonstrate the abilities to keep records, provide routine and preventive maintenance, analyze, and adjust control equipment.	10	12
2019-2020	932209	ELECTRICAL CONTROL SYSTEMS	Students learn the interfacing of instrument devices with electrical control systems. Subjects include recognizing, drawing, wiring, and troubleshooting typical ladder logic circuits, relays, motor starters, and other digital control devices. Upon completion, students will be able to design, draw, wire, and troubleshoot basic ladder logic circuits that include both relays and motor starters.	10	12
2019-2020	932210	ADVANCED INDUSTRIAL PROCESS CONTROL TECHNOLOGY	This course is an advanced study of the principles governing methods of using process variables in the control of industrial processes. The study includes methods and procedures for measuring, displaying and transmitting process variables according to industry standards. The course also includes an in-depth study of mathematics pertaining to industrial control instruments.	10	12
2019-2020	932211	CONTROL AND TROUBLESHOOTING FLOW, LEVEL, TEMPERATURE, PRESSURE	The student is introduced to analog and digital process control systems. The student is also introduced to process control techniques commonly found in industrial processes used to maintain control of process variables. The student gains knowledge and experience in the design and selection of equipment used in troubleshooting of control loops on actual lab equipment.	10	12
2019-2020	932212	INTRODUCTION TO PROGRAMMABLE LOGIC CONTROLLERS	This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.	10	12
2019-2020	932213	DISTRIBUTED CONTROL SYSTEMS	This course focuses on the study of distributed control systems as used in the modern industrial plant. Subjects included are the interfacing of digital and analog signals from field devices, the field control unit, the operator station, data highways, basic D.C.S. operations (overviews, control groups, detail, trend, and graphic pages), the latest trends in microprocessor devices, and protocols presently under development. Upon completion, students will be able to operate, build, configure, and troubleshoot a basic digital or analog control loop on a D.C.S. system.	10	12
2019-2020	932401	SPORTS TURF MANAGEMENT	This course is a study of sport turf management and is optional for students of Landscape Operations Technology. Topics include materials, techniques and tools required for the proper installation and maintenance of turf for athletic applications. Upon completion students will be able to install and maintain turf for sport application, particularly golf.	10	12
2019-2020	932402	GOLF COURSE MAINTENANCE SYSTEMS	This course is a detailed study of the logistics of day-to-day maintenance programs as they relate to the overall management of golf course facilities. Topics include scheduling, record keeping, long range planning as applied to the physical Golf course site. Upon completion the students will be able to develop a detailed maintenance program for golf course facilities.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932403	GOLF COURSE MANAGEMENT - CURRENT TOPICS	This course focuses on current topics in golf course management. Topics are not normally included in the prescribed course of study, but are necessary to ensure that students remain current in the field. Upon completion of this course students will have been exposed to current issues in golf course management.	10	12
2019-2020	932404	INTERNSHIP IN GOLF COURSE MANAGEMENT	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932405	INTERNSHIP IN GOLF COURSE MANAGEMENT	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932601	WORKPLACE ESSENTIALS	This course emphasizes the foundational information to develop knowledge and skills to prepare individuals for employment following completion of technical and academic programs. At the conclusion of this course, students will have knowledge and skills relevant to work ethic, communication, resume writing, job interviewing, dress and appearance, behavior, problem solving, decision making, and project management.	10	12
2019-2020	932602	INTRODUCTION TO LOGISTICS	This course introduces students to the basic concepts of logistics for a variety of applications. Students gain insights into how logistics play a vital role in all aspects of business and industry. Specific topics include basic concepts of logistics and health and safety concerns in warehouse and transportation environments. Students are provided information that enables them to obtain an OSHA 10 certification.	10	12
2019-2020	932603	WAREHOUSE OPERATIONS I	This course provides students with information relative to safety and common logistics operations concepts such as: receiving goods, inventory tracking, storage, handling, initial forklift training, and shop floor management. Students also gain hands-on experience in a logistics environment.	10	12
2019-2020	932604	WAREHOUSE OPERATIONS II	This course is a continuation of information and skills gained in Warehouse Operations I. Students gain additional information on topics such as: in-house transportation, forklift operations, consolidation, and packing. Students must obtain a forklift certification to be successful in this course.	10	12
2019-2020	932605	SUPPLY CHAIN FUNDAMENTALS	This course provides students with additional information on logistics concepts. Topics include: transport planning, loading and shipping, supply chain management, Just in time/sequence processes, training, continuous improvement, and development of skills.	10	12
2019-2020	932606	PURCHASING IN LOGISTICS	This course provides students with an introduction to purchasing processes to include the impact of purchasing, compliance issues, and Incoterms. Emphasis is placed on the purchase of efficient and effective purchasing practice to ensure the best uses of resources.	10	12
2019-2020	932607	SURVEY OF AUTOMATED LOGISTICS SYSTEMS	This course provides a survey of automated system used in many logistics and supply chain management applications. Instruction will focus on similarities and differences of automated systems conventions. Upon successful completion of this course students will be familiar with how automated systems support logistics management applications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932608	MATERIALS MANAGEMENT	This course will introduce students to materials management by learning planning production processes, master scheduling, material requirements, and forecasting material demands and inventory levels. This course is designed to build on the students' knowledge of supply chains and how effective material management improves supply chain performance.	10	12
2019-2020	932609	LOGISTICS AND REGULATORY COMPLIANCE	This course provides students with knowledge of international, national, state, and local regulations impacting on various aspects of managing logistics and supply chains. Topics include trade compliance, standard shipping documents, harmonized commodity description and coding system, and the role of participating government agencies. At the conclusion of this course students will comprehend key elements of logistics regulatory compliance.	10	12
2019-2020	932610	PHYSICAL DISTRIBUTION SYSTEMS	This course provides students with an overview of distribution systems common to logistics operations. Specific topics include just in time systems, warehousing, cross docking, and major methods of transportations. Upon completion of this course students will comprehend how various distribution systems impact logistics operations.	10	12
2019-2020	932611	WAREHOUSE AND INVENTORY MANAGEMENT	This course provides students with information on the efficient and effective operation of warehouse operations. Emphasis is placed on the management of warehouse operation and its relationship with supply chain management.	10	12
2019-2020	932612	LOGISTICS OPERATIONS APPLICATIONS	This course serves as a capstone activity to provide students with practical application of knowledge and skills associated with logistics operations.	10	12
2019-2020	932613	WAREHOUSE LOGISTICS APPLICATIONS	This course serves as a capstone activity to provide students with practical application of knowledge and skills associated with warehouse operations. Students must have a forklift operator's certificate before enrolling in this course. Specific topics include orientation to the work site, workplace safety, and orientation to localized equipment and procedures.	10	12
2019-2020	932801	INTRODUCTION TO HORTICULTURE	This course provides students with foundational knowledge relative to the horticulture profession. Specific topics include information regarding the horticulture industry, safety practices, basic botany, and general plant care and culture.	10	12
2019-2020	932802	SOILS & FERTILIZERS	This course provides students with an overview of methodologies to improve soil through preventing erosion, pH balance, and the proper use of nutrients and fertilizers. Specifically, students will learn the characteristics of soils, methods to control soil erosion, methods to modify soil, how to test and modify soil pH, and how to provide nutrients through fertilizers and other means to improve plant growth. This course supports CIP code 01.0601 and 01.0605.	10	12
2019-2020	932803	PLANT PROPAGATION	This course is designed to provide students with basic knowledge related to sexual and asexual plant propagation. At the conclusion of this course students will be able to use various techniques to propagate plants through seeds and asexual means such as budding, cutting, and grafting.	10	12
2019-2020	932804	TURF MANAGEMENT	This course is the study of all major southern lawn and sport grasses, their establishment and maintenance. Topics include turf equipment, fertilizers, insect and disease problems, and mowing techniques. Upon course completion, students will be able to evaluate the quality of an existing turf area and prescribe a maintenance program for turf used for lawns, playing fields and parks.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932805	LANDSCAPE DESIGN I	This course is an introduction to graphic communication, composition and color, as applied to basic landscape design. Topics include graphic techniques, basic design principles, and the study of special compositions. Upon completion of this course, students will be able to develop basic, small-scale landscape plans.	10	12
2019-2020	932806	ORNAMENTAL PLANT IDENTIFICATION AND CULTURE	This course focuses on the identification and growth requirements of ornamental plants. Topics include identification, habits of growth, cultural requirements, and landscape use of ornamental plants of the southeastern United States. Upon course completion, students will know common and botanical names of landscape plants and will know the appropriate use of each plant.	10	12
2019-2020	932807	RESIDENTIAL LANDSCAPE DESIGN	This course provides an overview of the fundamentals of residential site design. Topics include site measuring and base map preparation, functional diagrams, landscape design principles, drafting and drawing procedures, design principles, appropriate use of plant materials, planting, site preparation, and spatial composition. Upon course completion, students will be able to develop a master plan for a residential property.	10	12
2019-2020	932808	COMMERCIAL LANDSCAPE DESIGN	This course focuses on large landscape design projects. Topics include site analysis, design development, and project scheduling. Upon course completion, students will be able to develop a professional landscape design including scheduling and cost estimates of materials, labor, and overhead.	10	12
2019-2020	932809	LANDSCAPE MAINTENANCE	This course focuses on maintaining plant materials and turf in an existing landscape. Topics include pruning, mowing techniques, pest management, and selection of maintenance equipment. Upon course completion, students will be able to demonstrate landscape maintenance techniques and will be able to prepare labor-time estimates and cost analysis for maintaining landscapes.	10	12
2019-2020	932810	LANDSCAPE PLANT MATERIALS	This course is a study of the identification and culture of landscape plants, both woody and herbaceous, that are used in landscape operations in the southeast United States. Topics include identification, culture, and applications for a selected variety of southeastern ornamental and native landscape plant material. Upon completion of this course students will be able to identify, specify, and prescribe basic maintenance programs for southern landscape plant materials.	10	12
2019-2020	932811	LANDSCAPE OPERATIONS SHOP AND EQUIPMENT MANAGEMENT	The course is a study of landscape and golf course equipment shop management. Topics include shop safety, OSHA and EPA regulations, shop layout, and equipment inventory. Upon course completion, students will be able to apply effective shop management practices.	10	12
2019-2020	932812	IRRIGATION SYSTEMS	This course is designed to provide students with the information needed to design, layout, and install an irrigation system on residential and commercial properties. Topics of discussion will include system design, cost estimating, installation techniques, and electronic control devices. Upon course completion, students will be able to design and install residential and commercial irrigation systems.	10	12
2019-2020	932813	LANDSCAPE DESIGN II	This course is a study of basic concepts and current practices in landscape design. Topics include the art and science of the use of plant material with emphasis on the aesthetics of form, space and composition. Upon completion the student will be able to develop detailed landscape designs.	10	12
2019-2020	932814	LANDSCAPE CONSTRUCTION II	This course is a study of the installation and maintenance of plant materials. Topics include procedures involved in bed preparation, properly designating, shipping and handling, and installing and maintaining plant materials. Upon completion of this course the student will be able to successfully install the plant material portion of a landscape project.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	932815	LANDSCAPE PROJECT PLANNING	This course deals with unique factors in designing, scheduling, and constructing specialized components of major landscape projects. Major topics will include project planning, costs estimates, bidding, use of contract labor, state and federal regulations, and the detail planning needed to complete the project on schedule. Upon course completion, students will be able to develop a complete project plan.	10	12
2019-2020	932816	LANDSCAPE CONSTRUCTION III	This course is a study of design, detailing and construction techniques for hardscape components in landscape development. Topics include landscape applications in wood, in concrete, and in paving stone. Upon completion students will be able to specify and install these portions of a landscape project.	10	12
2019-2020	932817	PEST AND WEED CONTROL	This course is the study of pest and weed control. Topics include insect and nematode pests, disease, fungi and weed problems of landscape plants, emphasizing control principles and recommendations, calibrations and use of equipment, and safety regulations and practices. Particular emphasis will be given to Integrated Pest Management practices. Upon completion of this course the students will be able to sit for the license exams in pest spraying in the state of Alabama.	10	12
2019-2020	932818	INTERNSHIP-LANDSCAPE OPERATIONS	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	932819	INTERNSHIP-LANDSCAPE OPERATIONS	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	933001	RANGES, COOK-TOPS, AND OVENS	This course is designed to provide the student with the knowledge to install, or repair gas and electric ranges, cook-tops and ovens including microwave ovens. This course is designed to provide an In Home Service Professional with the skills and knowledge to correctly and efficiently diagnose, and repair residential ranges and microwaves. Upon completion of the course students should be able to trace wiring diagrams, understand the sequence of operation, properly use test equipment, and disassemble and reassemble ranges, cook-tops, and ovens.	10	12
2019-2020	933002	CLOTHES WASHERS AND DISHWASHERS	This course is designed to provide the student with the basic knowledge of electric clothes washers and dishwashers. This course emphasizes the proper service, repair and installation of these two major household appliances. Upon completion students should understand and be able to apply correctly and efficiently diagnose and repair residential clothes washers and dishwashers.	10	12
2019-2020	933003	ELECTRIC AND GAS DRYERS	Dryer Repair is an appliance specific training course designed to provide an In-Home Service Professional with the skills and knowledge to correctly and efficiently diagnose and repair residential electric and gas dryers. Upon completion of the course students should be able to trace wiring diagrams, understand the sequence of operation, properly use test equipment, and disassemble and reassemble dryers.	10	12
2019-2020	933004	REFRIGERANT TRANSITION AND RECOVERY	This course is EPA-approved and covers material relating to the requirements necessary for type I, II, and III universal certifications. Upon completion, students should be prepared to take the EPA 608 certification examination.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933005	REFRIGERATORS AND FREEZERS	Refrigerator Repair is an appliance specific training course designed to provide an In-Home Service Professional the skills and knowledge to correctly and efficiently diagnose, and repair residential refrigerators and freezers. Upon completion of the course students should be able to trace wiring diagrams, understand the sequence of operation, properly use test equipment, and disassemble and reassemble refrigerators and freezers.	10	12
2019-2020	933201	MASONRY FUNDAMENTALS	This course is designed as an introduction and orientation to masonry construction, specifically to brick and block construction. Topics include the identification and safe use of tools, equipment, and masonry materials. Upon completion, the students should have a general knowledge of masonry.	10	12
2019-2020	933202	BRICK/BLOCK MASONRY FUNDAMENTALS	This course is designed to provide the student with basic fundamental skills for working with brick and block. Emphasis is placed on the importance of proper work site set up, dry bonding, head and bed joints, leveling, plumbing, and straight edging. Upon completion the students should have requisite skills meeting entry level standards.	10	12
2019-2020	933203	BRICK/BLOCK MASONRY FUNDAMENTALS II	This course is designed to provide the student with a working knowledge of laying bricks and blocks. Emphasis is placed on set up, layout, building corners, and laying to the line. Upon completion the students should have entry level skills in brick and block masonry.	10	12
2019-2020	933204	BRICK/BLOCK MASONRY FUNDAMENTALS III	This course is designed to provide the student with a working knowledge of the various methods of laying bricks and blocks. Emphasis is placed on hanging a speed pole, layout, building corners, and laying to a line. Upon completion the students should have entry level skills in basic bonds, tooling and finishing joints, toothing corners, and cutting masonry units.	10	12
2019-2020	933205	BLOCK MASONRY LAB	This course provides practical application of block laying techniques. Emphasis is placed on developing skill in laying block, constructing and reinforcing walls, joints, and sample panels. Upon completion, the student should be able to construct block walls to entry-level standards.	10	12
2019-2020	933206	BRICK MASONRY LAB	This course provides practical application of advanced brick laying techniques. Emphasis is placed on developing skill in laying brick, constructing and reinforcing walls, joints, and sample panels. Upon completion, the student should be able to construct brick walls to entry-level standards.	10	12
2019-2020	933207	RESIDENTIAL/COMMERCIAL MASONRY	This course provides application of residential and commercial techniques for reading plans, estimating costs, and constructing composite walls. Emphasis is placed on estimating material and labor cost based on specifications contained in working drawings or blueprints and on bonding composite walls. Upon completion, the student should be able to demonstrate entry level skills in print reading and cost estimation as well as composite wall construction and bonding.	10	12
2019-2020	933208	STONE MASONRY	This course provides an introduction to stone and decorative masonry techniques, fireplace construction, and repair and restoration of brick structures. Topics include brick arches, fireplace construction, stone materials, laying techniques, moisture control, wall supports, joints, coping, sample panels, and cultured stone. Upon completion, the student should be able to identify appropriate materials and techniques for the stated topics.	10	12
2019-2020	933209	SPECIALIZED MASONRY	This course provides an introduction to geographically specific masonry techniques. Topics include panel construction, acid brick, refractories, structural glazed tile, glass block, passive solar design, barrier walls and hollow metal frames. Upon completion, students should be able to define and recognize types and applications of specialized techniques and materials as well as identify proper installation and laying techniques.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933210	BASIC CEMENT MASONRY	This course is designed to introduce the various types of cement masonry, concrete requirements, flat work, estimating, and finishing methods. Emphasis is placed on estimating concrete for small to medium size projects, flat work, form work, footings, and the correct tools and methods of finishing and placing.	10	12
2019-2020	933211	STONE MASONRY LAB	This course provides practical application of stone and decorative masonry techniques, repair and restoration of brick structures, and brick arches. Emphasis is placed on developing skill in performing these techniques. Upon completion, the student should be able to lay stone, repair and restore brick structures, and build brick arches to entry-level standards.	10	12
2019-2020	933212	FIREPLACE CONSTRUCTION	This course provides practical application of techniques for constructing fireplaces and other decorative work. Emphasis is placed on developing skill in constructing decorative masonry techniques. Upon completion, the student should be able to construct a variety of fireplaces to entry-level standards.	10	12
2019-2020	933213	BRICK ARCHES LAB	This course provides practical application of techniques of constructing brick arches and other decorative work. Emphasis is placed on developing skill in constructing decorative masonry techniques. Upon completion, the student should be able to construct brick arches and other decorative masonry techniques to entry-level standards.	10	12
2019-2020	933214	SPECIALIZED MASONRY	This course provides practical application of geographically specific masonry techniques. Emphasis is placed on developing skill in laying and installing panel construction, acid brick, refractories, structural glazed tile, glass block, passive solar design, barrier walls, and hollow metal frames. Upon completion, students should be able to perform, to entry-level standards, appropriate techniques for selection, laying, and installation of geographically specific masonry applications.	10	12
2019-2020	933215	BASIC CEMENT MASONRY LAB	This course introduces the students to basic concrete masonry, including the use of various tools, estimating, and placing concrete. Emphasis is placed on correct methods used in placing concrete, finishing concrete, placing forms, and proper care of concrete tools. Upon completion of this course, the student should demonstrate entry-level skills for placing, finishing, estimating, and curing concrete.	10	12
2019-2020	933216	ADVANCED CEMENT MASONRY	This course continues skill building in concrete masonry. Emphasis is placed on correct methods used in placing concrete, finishing concrete, placing forms, and maintenance of concrete tools. Upon completion of this course, the student should be able to demonstrate increased speed and accuracy in building structures covered in this course.	10	12
2019-2020	933217	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	933218	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	933219	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933220	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	933221	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	933222	CO-OP ELECTIVE	This course allows the student to work parallel in a job closely related to the student's major while attending college. The grade is based on the employer's evaluation of the student's productivity, an evaluation work report submitted by the student, and the student's learning contract.	10	12
2019-2020	933401	ENGINEERING BLUEPRINTS	This course covers the reading of technical blueprints. Topics include drawing techniques, materials used in manufacturing and fabrication, language, standards, mechanical components, machining procedures, and symbols. The student will be expected to apply the concepts learned to technical drawing to determine any dimension or specification required.	10	12
2019-2020	933402	INTRODUCTION TO COMPUTER-AIDED DESIGN	This course teaches the basic techniques and concepts used in setting up a computer-aided software program on a personal computer to make technical drawings. Students use AutoCAD in application of drawing/design techniques. Students will be expected to draw proper basic multi-view drawings using AutoCAD by the completion of the course.	10	12
2019-2020	933403	MECHANICAL DRAWING	This course covers the basic principles and practices in mechanical drafting/design incorporating computer-aided drafting equipment. The use of proper lines, dimensions, and notations are covered in regard to multi-view orthographic drawings. Students will be expected to draw the proper views of objects using computer-aided drafting software.	10	12
2019-2020	933404	ARCHITECTURAL DRAWING	This course covers the basics of architectural drawings related to residential and small commercial applications using computer-aided drafting equipment. Topics covered will be basic floor plans, light construction methods and materials, roofs, stair construction, layout, utilities, windows, doors, wall, and necessary detail drawings. The student will be expected to make basic architectural drawings using computer-aided software.	10	12
2019-2020	933405	ARCHITECTURAL DRAWING II	This course covers the basics of architectural drawings related to residential, small commercial and industrial applications using computer-aided drafting equipment. Topics covered will be basic floor plans, light construction methods and materials, roofs, stair construction, layout, utilities, windows, doors, wall, and necessary detail drawings. The student will be expected to make basic architectural drawings using computer-aided software.	10	12
2019-2020	933406	AUTOCAD CADD	This course covers the concepts and commands necessary to use AutoCAD software for computer-aided drafting/design purposes. Topics include basic screen features, equipment, software limitations, view presentations, plotting of drawings, and scaling as applied to basic drafting/design technical drawings. The students will be expected to use the AutoCAD software commands and the computer equipment to start and complete basic multi-view drawings.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933407	INVENTOR CADD	In this course students will use the beginning and intermediate techniques of Inventor computer-aided drafting/design software to develop and render 3-D solids. Topics include Sketching, 3-modeling commands, specialized software applications development of 2-D drawings from the 3-D models, rendering and plotting. The student will be able to develop the sketches necessary to create 3-D solids and turn them into 2-D drawings for fabrication.	10	12
2019-2020	933408	ADVANCED INVENTOR CADD	In this course students will use advanced techniques of Inventor computer-aided drafting/design software to develop and render 3-D solid model assemblies. Topics include advanced sketching and 3-modeling commands, animation software applications and stress analysis applications. The student will be able to develop the sketches necessary to create 3-D solids, assemblies, animation and perform stress analysis on parts and assemblies.	10	12
2019-2020	933409	SELECTED TOPICS IN MECHANICAL DESIGN TECHNOLOGY	This course is designed to allow students flexibility in their training to develop specialized skills or enhance particular software applications. Topics will be determined by the instructor. The student will be able to demonstrate the skills taught in the course.	10	12
2019-2020	933410	SOLID WORKS CADD	This course introduces the student to parametric, feature-based, solid modeling using the 3-D concepts of SOLID WORKS computer-aided design software. This course covers the commands, concepts, views, dimensioning, and techniques to design solid-model parts quicker than 2-D software. The student will be able to use SOLID WORKS computer-aided design software to properly draw the views necessary to manufacture a part.	10	12
2019-2020	933411	PRO-ENGINEERING CADD	This course covers the use and application of Pro-Engineer computer-aided drafting/design software using parametric concepts of 3-D design for solid modeling on a high level computer work station. This course covers the commands, concepts, and applications of the Pro-Engineer software to develop 3-D parts, draw assemblies, working drawings, and rendering of design parts. The student will be able to use the Pro-Engineer software with competency to develop accurate technical drawings of parts.	10	12
2019-2020	933412	ADVANCED MECHANICAL DRAWINGS	This course focuses on the application of standards used in drafting/designing auxiliary, section, detail, and assembly views using computer-aided drafting/design software. Topics include the proper use and techniques of computer-aided drafting/design, the arrangement of auxiliary, detail, and section views. The student will be expected to apply the skills and techniques to make technical drawings using computer-aided drafting/design software.	10	12
2019-2020	933413	MACHINE DESIGN	This course covers the design concepts necessary to develop the technical drawings and features to manufacture or fabricate a part or assembly using computer-aided design/drafting software. The topics covered are the concepts and design constraints of gears, drive systems, bearings, belts, shafts, chains, fasteners, and springs. The student will be expected to apply the concepts and design constraints to properly design machine components and systems.	10	12
2019-2020	933414	ADVANCED SOLID WORKS CADD	This course broadens the student's concepts of parametric, feature-based, solid modeling using the 3-D concepts of parts. The student will be able to use SOLID WORKS computer-aided design software to properly draw the views necessary to manufacture advanced, designed parts.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933415	HVAC & PIPE SYSTEMS DESIGN	This course covers topics and concepts related to the design of heating, ventilation, air conditioning and piping systems in residential, industrial, and commercial applications. The topics covered are the design considerations and constraints of HVAC and pipe systems, sizing, symbols, layout, restrictions, and single and double line pipe drawings using computer-aided drafting/design software. The student will be expected to use the design specifications to properly design and draw HVAC and pipe systems.	10	12
2019-2020	933416	STRUCTURAL & WELD DESIGN	This course covers the design concepts of structural steel beams and welding techniques. The topics covered are the symbols, types of beams, sizing, joining, bill of materials, beam drawing techniques, scaling, beam details, welding concepts, welding symbols, and welding applications. The student will be able to design and draw properly the necessary beam structural to support a load according to specifications, and be able to read and design the weld type and size.	10	12
2019-2020	933417	ELECTRICAL & ELECTRONIC DESIGN	This course covers the design concepts related to electrical and electronic technical prints. The topics covered are symbols, circuit analysis, drawing types, components, functions of components, schematics, programmable logic control circuits, ladder logic control circuits, motor control circuits, and specifications. The student will use computer-aided software to design and draw the proper technical prints for and electrical and/pr electronic applications.	10	12
2019-2020	933418	3-D STUDIO MAX	This course covers the use of 3-D Studio Max computer-aided design software to make technical and pictorial animated drawings to design 3-D objects for presentations. This course covers the commands, application of equipment, concepts, views, dimensions, and techniques particular to this software for design of parts. Upon completion the student will make a 3-D animated presentation of their design.	10	12
2019-2020	933419	ADVANCED PRO-ENGINEER	This course covers the use and application of Pro-Engineer computer-aided drafting/design software using parametric concepts of 3-D design for solid modeling on a high level computer work station. This course covers advanced concepts, and application of the Pro-Engineer software to develop 3-D parts, draw assemblies, working drawings, and rendering of design parts. The student will be able to use the Pro-Engineer software with competency to develop accurate technical drawings of complicated parts.	10	12
2019-2020	933420	COMPUTERIZED STRUCTURE ANALYSIS	This course covers the use and application of advanced computer-aided drafting/design software applications of Mechanics software to perform analysis of structures in regard to force load and/or heat transfer. This course covers the commands, concepts, and applications of the software to develop 3-D analysis of structures. The student will be able to use the analysis software with competency to develop accurate technical analysis of design parameters.	10	12
2019-2020	933601	MECHANICAL TOOLS I	This course offers an introduction into basic hand tools, machining, shop safety, quality measurement devices (e.g. tape measures, calipers, micrometers), control charts, tolerancing, and use of gages.	10	12
2019-2020	933602	MECHANICAL TOOLS II	This course offers continued emphasis on shop safety, quality measurement devices, and expands total quality management techniques such as control charts and SPC (statistical process control). Students will gain actual experience in processing work, selecting cutting tools, and setting feeds and speeds using manually operated machines. In addition, students will learn how to program and operate CNC (Computerized Numerical Control) equipment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933603	INTRODUCTION TO ROBOTICS	This course introduces students to robotics. Topics include the types of robots, applications for their use, service and repair, safety issues, their operation and programming. A study of the history and future use is included.	10	12
2019-2020	933604	BASIC COMPUTER-AIDED DRAFTING	The purpose of this course is to introduce the student to mechanical computer-aided drafting (CAD). This will include zooming, snapping, coordinate schemes, copying, moving, plotting, layers, trimming, offsetting, filleting, breaking, blocking, inserting, and dimensioning. Upon completion of this course, a student will be able to draw and dimension basic floor plans and other components of mechanical working drawings.	10	12
2019-2020	933605	ADVANCED COMPUTER AIDED DRAFTING	Continuation of MET 201. Topics include dimensioning, reflecting, polygons, arrays, utilities, sectioning, hatching, arcs, isometrics, rotating, attributes, filing, and enhanced lines. Upon completion of this course a student will be able to draw and dimension isometric views, sectional views, and other views as necessary to clearly and completely describe an object using two-dimensional microcomputer techniques.	10	12
2019-2020	933606	BASIC COMPUTER AIDED MODELING	Introduction to computer-aided modeling (CAM). Topics include three-dimensional drawing, filters, three-dimensional coordinates, view ports, meshes, surfaces, projections, model space, and model ports. Upon completion of this course a student will be able to draw and dimension the wire-frame model of an object using three-dimensional microcomputer techniques.	10	12
2019-2020	933607	ADVANCED COMPUTER AIDED MODELING	Continuation of MET 204. Topics include projecting, model space, paper space, model views, external references, and solid modeling. Upon completion of this course a student will be able to draw and dimension the diagrams necessary to clearly and completely describe an electronic network.	10	12
2019-2020	933608	MECHANICAL SYSTEMS I	This course offers an introduction into mechanical systems. Topics include mechanical power transmission, motor mounting, shaft alignment, light weight belt and chain drives, torque, efficiency, gearings, gaskets, seals, gear drive maintenance, and safety. Upon completion of this course, the student will have demonstrated the ability to perform lockout/tagout, measure motor parameters, and install, align, remove, and maintain mechanical drive components.	10	12
2019-2020	933609	MATERIALS	An introduction to the nature and properties of materials. Topics include atomic bonding, material structures, phase diagrams, heat treatments, metals, ceramics, plastics, and composites. Upon completion of this course a student will be able to identify, classify, and/or describe a material and to solve for a single unknown material variable	10	12
2019-2020	933610	GEOMETRIC DIMENSIONING & TOLERANCING	This course serves as an introduction to GD & T (Geometric Dimensioning and Tolerancing) for students who are pursuing careers in manufacturing technology and other related fields. Topics include fundamentals of symbols, terms used in application, positional tolerance applications, data frame and conversion tables.	10	12
2019-2020	933801	UNDERGROUND NEW MINER	This course will provide the student with the basic knowledge and understanding necessary for entry level employment in underground coal mining. Emphasis is placed on the safety and health aspects of federal and state regulations pertaining to underground coal mining. Upon completion the student will understand the federal and state laws governing underground coal mining.	10	12
2019-2020	933802	UNDERGROUND COAL RETRAINING	This course will provide the student with the appropriate safety and health information to work safely in an underground coal mine. Emphasis is placed on ventilation, roof and rib control, first aid, and CPR. Upon completion, the student will understand the safety aspects involved in underground coal mining.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933803	SUPERVISOR FIRST AID	This course provides the students with knowledge and skills for providing basic first aid to victims in emergency situations. Emphasis is placed on current information from the American Heart Association and the National Safety Council.	10	12
2019-2020	933804	CPR/FIRST AID	This course will provide the student with the basic knowledge and skills for performing basic CPR and First Aid. Emphasis is placed on the current American Heart Association standards and the current first aid information from the National Safety Council.	10	12
2019-2020	933805	SURFACE NEW MINER	This course will provide the student with the basic knowledge and understanding necessary for entry level employment in surface mining. Emphasis is placed on federal and state regulations pertaining to surface mining. Upon completion, students will understand the federal and state laws governing surface coal mining.	10	12
2019-2020	933806	CPR AED TRAINING	This course is designed to provide students with skills leading to a certification on how to perform cardio pulmonary resuscitation in a variety of emergency situations along with knowledge and skills in the operation of Audio External Defibrillators (AED). At the conclusion of the course students will be able to perform CPR and operate AED'S to resuscitate victims.	10	12
2019-2020	933807	SURFACE COAL RETRAINING	The course will provide the student with the appropriate safety and health information needed to work safely in a surface mine. Emphasis is placed on safe work practices and procedures. Upon completion, the student will understand the safety aspects and hazards involved in surface mining.	10	12
2019-2020	933808	FIRST RESPONDER	This course is designed to provide students with skills to perform basic first aid in a variety of emergency situations. Specific topics include assessing victims, basic life support, CPR certification, natural disaster response, and treating victims for various traumas. At the conclusion of this course students will be able to provide basic life support for victims.	10	12
2019-2020	933809	ELECTRICAL CERTIFICATION	This course provides the student with adequate information on direct current theory, alternating current theory, Ohm's Law, circuits, federal and state mining laws, and the National Electrical Code as applicable to the Mine Safety and Health Administration/State of Alabama certification. Upon completion, the student will have information necessary to pass the state certification examination.	10	12
2019-2020	933810	ELECTRICAL UPDATE	This course provides the student with updates required by the Mine Safety and Health Administration (MSHA) in the areas of DC Current, Alternating Current, Federal and State regulations, and National Electric Code. Upon completion, students should understand the hazards involved in mining electrical work.	10	12
2019-2020	933811	UNDERGROUND MINE FOREMAN	This course prepares the student for the State of Alabama Underground Mine Foreman Examination. This course provides the student with a working knowledge of coalmine ventilation, roof control, blasting, mine gases, firefighting, and Alabama State Coal Mining Laws. Upon completion, students will have the information necessary to successfully complete the State Mine Foreman Examination.	10	12
2019-2020	933812	IMPOUNDMENTS	This course is designed to provide the students with the basic knowledge necessary to enable them to construct and inspect existing refuse facilities in accordance with the CFR regulations in order to maintain a safe refuse facility. Prepares the student with information to successfully pass the MSHA Impoundment Certification Exam.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	933813	BASIC HYDRAULICS	This course provides the student with a study of force and energy, pumps, actuators, control valves, flow valves, pressure valves, reservoirs, coolers, filters, motors, symbols, and print reading. Emphasis is placed on troubleshooting and maintaining hydraulic systems. Upon completion, students will understand basic hydraulic principles, how to troubleshoot hydraulic systems, and how to maintain hydraulic components.	10	12
2019-2020	933814	HYDRAULICS	This course is designed to introduce the student to ideals, concepts, theories, and principles of the application of hydraulics in an industrial setting. After completing this course, the student should have a basic knowledge of hydraulics to apply in an industrial environment.	10	12
2019-2020	934001	INTRODUCTION TO THERAPEUTIC MASSAGE	The purpose of this course is for students to comprehend foundational information related to the profession of therapeutic massage. Specific topics include: history of therapeutic massage, professional ethics and standards of practice, regulatory agencies and their requirements, client and therapist's professional relationships, communication skills, and an overview of types of therapeutic massage.	10	12
2019-2020	934002	THERAPEUTIC MASSAGE LAB I	This course provides foundational information related to massage therapy. Students gain knowledge related to purposes, effects, applications, benefits, indications and contraindications for various types of massage therapy. Additionally, students learn procedures and precautions for various types of massage therapies. Specific topics include full body western (Swedish) massage, hot and cold therapies, stretching, and documentation guidelines. Special emphasis is placed on professional behaviors, proper draping, and body mechanics. At the conclusion of this course students will be able to perform various types of full body therapeutic massage techniques and document their activities.	10	12
2019-2020	934003	ANATOMY AND PHYSIOLOGY	This course provides students with an overview of the basic anatomy and physiology of the human body. Emphasis is placed on the importance of maintaining homeostasis. At the conclusion of this course students will have a basic understanding of the various systems of the body and the effects of massage on these systems. Students will demonstrate this knowledge through cognitive and performance based measurement.	10	12
2019-2020	934004	MUSCULO-SKELETAL AND KINESIOLOGY I	This course introduces students to concepts related to the study of muscle movement. As part of this course students learn the interaction of muscles and various bony landmarks of the skeletal system. Students further learn how to position individuals in preparation for therapeutic massage of various muscle groups. Students will demonstrate this knowledge through cognitive and performance based measurement.	10	12
2019-2020	934005	THERAPEUTIC MASSAGE SUPERVISED CLINICAL I	In this course, students are required to demonstrate competency in specific therapeutic massage techniques including treatment preparation, use of proper techniques, client progress, and documentation. Students are required to perform a minimum of 45 hours of hands-on client massages.	10	12
2019-2020	934006	FOUNDATIONS OF THERAPEUTIC MASSAGE	The purpose of this course is for students to comprehend foundational information related to the profession of therapeutic massage. Specific topics include: history of therapeutic massage, professional ethics and standards of practice, regulatory agencies and their requirements, client and therapist's professional relationships, communication skills, and an overview of types of therapeutic massage. Included in this course are opportunities for students to apply professional behaviors associated with massage therapy in a simulated environment.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934007	BUSINESS AND MARKETING PLANS	During this course, students are also taught ethical business management and professional development. This course is designed to help students to prepare for ethical decision making in professional practice while assisting in the development of their emerging identities as professional licensed massage therapists. Emphasis is placed on building and retaining clientele, communication skills, customer skills, customer services, continuing education and setting goals. Upon completion, the student should be able to list the types of communication skills, state personal goals, and develop a business and marketing plan.	10	12
2019-2020	934008	THERAPEUTIC MASSAGE FOR SPECIAL POPULATIONS	In this course, students learn to adapt massage sessions to the needs of special populations such as pregnant women, infants, elderly, and the terminally ill. Topics include technique variations, length of session, contraindications, cautions, considerations for survivors of abuse, and possible benefits. Upon completion of this course, students will be able to discuss and demonstrate techniques for performing therapeutic massage for special populations.	10	12
2019-2020	934009	THERAPEUTIC MASSAGE LAB II	Students learn advanced massage therapy techniques building upon previously gained knowledge and skills. Upon completion students will be able to apply specific therapeutic massage techniques to various regions of the body.	10	12
2019-2020	934010	PATHOLOGY	This course presents baseline information on pathologies which massage therapists may encounter in clinical practice including conditions of the musculoskeletal, neurological, cardiovascular, lymphatic, integumentary, digestive, endocrine, and immune systems. Content will include etiology, symptomatology, medical approaches to treatment and the potential positive or negative impact of massage.	10	12
2019-2020	934011	MUSCULO-SKELETAL AND KINESIOLOGY II	In this course, students learn advanced study of the interaction of the muscular-skeletal system to include palpation techniques of the appendicular regions of the body. Students will demonstrate this knowledge through cognitive and performance based measurement.	10	12
2019-2020	934012	THERAPEUTIC MASSAGE SUPERVISED CLINICAL II	In this course, students are required to demonstrate competency in specific advanced therapeutic techniques including treatment preparation, use of proper techniques, client progress, and documentation. Students are required to perform a minimum of 45 hours of hands-on client massages.	10	12
2019-2020	934013	LICENSURE EXAM REVIEW	This course provides a consolidated and intensive review of the basic areas of expertise needed by the entry-level massage therapist. Upon completion, the student should be able to pass a comprehensive exam on information covered in the therapeutic massage program.	10	12
2019-2020	934201	BASIC MACHINING TECHNOLOGY	This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	934202	INTERMEDIATE MACHINING TECHNOLOGY	This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934203	ADVANCED MACHINING TECHNOLOGY	This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.	10	12
2019-2020	934204	BASIC MACHINING CALCULATIONS	This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.	10	12
2019-2020	934205	LATHES	This course covers the operation and safety practices for engine lathes. Topics include turning, grinding, boring, chamfering, necking, grooving, and threading. Upon completion, students should be able to safely operate an engine lathe using appropriate attachments.	10	12
2019-2020	934206	MILLING MACHINES	This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual vertical milling techniques to produce machine tool projects.	10	12
2019-2020	934207	HANDBOOK FUNCTIONS	This course covers the use of the machining handbook. Topics include formulas, tables and usage. Upon course completion, students will be able to use the machinery handbook in making calculations and setups of machine tools.	10	12
2019-2020	934208	INTRODUCTION TO COMPUTER NUMERICAL CONTROL	This course introduces the concepts and capabilities of computer numeric control (CNC) machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to develop a basic CNC program to safely operate a lathe and milling machine.	10	12
2019-2020	934209	BASIC COMPUTER NUMERICAL CONTROL TURNING	This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.	10	12
2019-2020	934210	BASIC COMPUTER NUMERICAL CONTROL MILLING	This course covers concepts associated with basic programming of a computer numerical control (CNC) milling center. Topics include basic programming characteristics, motion types, tooling, workholding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC milling program that will be used to produce a part.	10	12
2019-2020	934211	ADVANCED MILLING MACHINES	This course provides additional information on milling setups including rotary tables, boring, dovetail machining and dividing head work. Students obtain hands-on experience in the setup and use of these and other milling accessories.	10	12
2019-2020	934212	BASIC BLUEPRINT READING FOR MACHINISTS	This course covers the basic principles of blueprint reading and sketching. Topics include multi-view drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches.	10	12
2019-2020	934213	CAM	This course serves as an overview and introduction to computer assisted manufacturing (CAM) and prepares students for more advanced CAM courses. Topics covered are basic concepts and terminology, CAM software environments, navigation commands and file management, 2-D geometry, construction modification, and toolpath generation for CAM machining processes.	10	12
2019-2020	934214	INTRODUCTION TO METROLOGY	This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934215	GRINDING MACHINES	This course provides instruction and practice in the use of grinding machines. Emphasis is placed on construction, operation, and maintenance of grinding machines. Upon completion, students should be able to perform essential procedures on grinding machines.	10	12
2019-2020	934216	MILLWRIGHT WORK	This course provides information on welding, machine installation, couplings, precision measurement, belts, with an overview of the safety requirements for most industrial situations.	10	12
2019-2020	934217	MACHINE REPAIR	This course provides information for students that plan to enter the field of machine tool maintenance. Concentrating on power transmission through various mechanical means and the disassembly and repair of these machines provides the students with the experience needed to repair many types of machines.	10	12
2019-2020	934218	ADVANCED MACHINING CALCULATIONS	This course emphasizes advanced calculations common to machining operations. Students use these calculations for advanced applications for machine setup and planning. Specific topics include positive and negative numbers, symbolism, and algebraic expressions and operations. At the conclusion of this course students will be able to apply advanced machine calculations to equipment setup and planning.	10	12
2019-2020	934219	TOOLMAKERS TECHNOLOGY	This course covers the use of precision measuring instruments and interpreting engineering drawings. Emphasis is placed on the inspection of machine parts using a wide variety of measuring instruments and interpreting engineering drawings using modern conventions, symbols, datums, datum targets, projected tolerance zones, and industry specifications and standards. Upon completion students should be able to demonstrate correct use of measuring instruments and display print reading skills in line with NIMS certification standards.	10	12
2019-2020	934220	INTERMEDIATE BLUEPRINT READING	This course will build on Basic Blueprint Reading for Machinists. Topics include auxiliary and sectional views, tolerancing methods, symbols, and arrangement of views.	10	12
2019-2020	934221	INJECTION MOLD SETTER SKILLS	This course is designed to teach students basic mold setter skills. They will learn the fundamentals of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify common part defects such as non-fill, burn marks, warpage, discoloration, weld lines, and flash. At the end of this course students should be able to safely work as a mold setter.	10	12
2019-2020	934222	INJECTION MOLD SETTER SKILLS LAB	This course is designed to teach students basic mold setter skills in a laboratory environment. It is a companion course for AUT/MTT/MSP 173. The students will learn the practical application of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify and correct common part defects such as non-fill, burn marks, warpage, discoloration, weld lines, and flash. At the end of this course students should be able to safely work as a mold setter.	10	12
2019-2020	934225	COMPUTER NUMERICAL CONTROL LAB	This course provides basic blueprint reading theory and practice for machining and welding trades. Three dimensional comprehension and dimensioning practices are the primary concern of this course.	10	12
2019-2020	934226	ADVANCED BLUEPRINTING	This course provides basic blueprint reading theory and practice for machining and welding trades. Three dimensional comprehension and dimensioning practices are the primary concern of this course.	10	12
2019-2020	934227	INJECTION MOLD PROCESSING	This course is designed to teach student basic injection mold processor skills. Topics will include safety, molding materials, machine controls, fill rates, temperature control, pressure control, and timing. Students will learn how various factors affect the injection mold process and how to compensate for those factors by setting and adjusting machine controls.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934228	INJECTION MOLD PROCESSING LAB	This course is designed to teach students basic injection mold processor skills in a laboratory environment. It is a companion course for AUT/MTT/MSP 273. The students will learn the practical application of injection mold processes including safety, molding materials, machine controls, fill rates, temperature control, pressure control, and timing. Students will learn how various factors affect the injection mold process and how to compensate for those factors by setting and adjusting machine controls.	10	12
2019-2020	934229	CO-OP IN MACHINE SHOP TECHNOLOGY	Student work on a part-time basis in a job directly related to Machine Shop Technology. The employer and supervising instructor evaluate students' progress. Upon completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	934401	MACHINING TECHNOLOGY I	This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, grinding machines, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, grinding, drilling, sawing, turning, and milling.	10	12
2019-2020	934402	MACHINING TECHNOLOGY II	This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	934403	MACHINING CALCULATIONS I	This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations. This course is aligned with NIMS certification standards.	10	12
2019-2020	934404	MACHINE HANDBOOK FUNCTIONS I	This course covers the machinist's handbook. Emphasis is placed on formulas, tables, usage and related information. Upon completion, students should be able to use the handbook in the calculation and set up of machine tools.	10	12
2019-2020	934405	ORIENTATION TO COMPUTER ASSISTED MANUFACTURING	This course serves as an overview and introduction to computer assisted manufacturing (CAM) and prepares students for more advanced CAM courses. Topics covered are basic concepts and terminology, CAM software environments, navigation commands and file management, 2-D geometry, construction modification, and toolpath generation for CAM machining processes.	10	12
2019-2020	934406	BASIC PRINT READING FOR MACHINISTS	This course covers the basic principles of print reading and sketching. Topics include multi-view drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches.	10	12
2019-2020	934407	ENGINE LATHE LAB I	The student learns to safely operate an engine lathe in calculating feeds and speeds and shaping a variety of cutting tools by grinding. The student will also safely operate an engine lathe in straight turning, facing, turning to the shoulder and tapers.	10	12
2019-2020	934408	ENGINE LATHE LAB II	The student learns advanced operation of an engine lathe in calculating feeds and speeds and shaping a variety of cutting tools by grinding. The student will also safely operate an engine lathe in advanced straight turning, facing, turning to the shoulder and tapers.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934409	METROLOGY	This course covers the use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion students should be able to demonstrate correct use of measuring instruments.	10	12
2019-2020	934410	GEOMETRIC DIMENSIONING AND TOLERANCING I	This course is designed to teach students how to interpret engineering drawings using modern conventions, symbols, datums, datum targets, and projected tolerance zones. Special emphasis is placed upon print reading skills, and industry specifications and standards. This course is aligned with NIMS certification standards.	10	12
2019-2020	934411	LATHE OPERATIONS	This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques.	10	12
2019-2020	934412	MACHINING CALCULATIONS II	This course emphasizes advanced calculations common to machining operations. Students use these calculations for advanced applications for machine setup and planning. Specific topics include positive and negative numbers, symbolism, and algebraic expressions and operations. At the conclusion of this course students will be able to apply advanced machine calculations to equipment setup and planning.	10	12
2019-2020	934413	LATHE OPERATIONS I	This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques.	10	12
2019-2020	934414	LATHE OPERATIONS I LAB	This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques.	10	12
2019-2020	934415	MILLING OPERATIONS	This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual milling techniques (vertical and horizontal/universal) to produce machine tool projects.	10	12
2019-2020	934416	MILLING I	This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual vertical milling techniques to produce machine tool projects.	10	12
2019-2020	934417	MILLING 1 LAB	This course provides basic knowledge of milling machines. . Emphasis is placed on types of milling machines and their uses, cutting speed, feed calculations, and set-up procedures. Upon completion, students should be able to apply milling techniques to produce machine tool projects.	10	12
2019-2020	934418	BASIC COMPUTER NUMERICAL CONTROL	This course introduces the concepts and capabilities of computer numeric control (CNC) machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to develop a basic CNC program to safely operate a lathe and milling machine.	10	12
2019-2020	934419	BASIC COMPUTER NUMERICAL CONTROL TURNING PROGRAMMING I	This course covers concepts associated with basic programming of a computer numerical control (CNC) turning center. Topics include basic programming characteristics, motion types, tooling, workholding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC turning program that will be used to produce a part.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934420	BASIC COMPUTER NUMERIC CONTROL MILLING PROGRAMMING I	This course covers concepts associated with basic programming of a computer numerical control (CNC) milling center. Topics include basic programming characteristics, motion types, tooling, workholding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC milling program that will be used to produce a part.	10	12
2019-2020	934421	ADVANCED MACHINING CALCULATIONS	This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.	10	12
2019-2020	934422	ELECTRICAL DISCHARGE MACHINING I	This course introduces the student to the concepts of Electrical Discharge Machining (EDM) and the importance of EDM is an industrial setting. Emphasis is placed on safety procedures and machinist responsibility in the setup and operation of EDM machines and electrode selection. Upon completion, students should be able to produce basic machine products using both the wire-type and plunge-type EDM machines.	10	12
2019-2020	934423	PRECISION GRINDING MACHINES 1	This course includes more advanced precision grinder practices such as set-up procedures; work planning; surface, cylindrical, and tool and cutter grinding operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced precision grinding techniques.	10	12
2019-2020	934424	INTRODUCTION TO MACHINE SHOP I	This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	934425	INTRODUCTION TO MACHINE SHOP I LAB	This course provides practical application of the concepts and principles of machining operations learned in MTT 147. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	934426	INTRODUCTION TO MACHINE SHOP II	This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	934427	INTRODUCTION TO MACHINE SHOP II LAB	This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layout, drilling, sawing, turning, and milling.	10	12
2019-2020	934428	METALLURGY	This course covers the production, properties, testing, classification, microstructure, and heat treating effects of ferrous and non-ferrous metals. Topics include the iron-carbon phase diagram, ITT diagram, ANSI code, quenching, senescing, and other processes concerning metallurgical transformations. Upon completion, students should be able to understand the iron-carbon phase diagram, ITT diagram, microstructure images, and other phenomena concerning the behavior of metals.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934429	PRECISION GRINDING	This course includes more advanced precision grinder practices such as set-up procedures, work planning, surface grinding, cylindrical grinding, tool and cutter grinding, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced precision grinding techniques.	10	12
2019-2020	934430	PRECISION GRINDING LAB	This course provides practical application of the concepts and principles of precision grinding learned in MTT 161. Topics include set-up procedures, work planning, surface grinding, cylindrical grinding, tool and cutter grinding, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced precision grinding techniques.	10	12
2019-2020	934431	INTERMEDIATE BLUEPRINT READING FOR MACHINISTS	The purpose of this course is for students to further apply knowledge and skills with reading and interpreting blue prints for machining operations. Specific topics include: calculating missing dimensions from drawings, drawing different views of an object, knowledge of features and types of threads and fasteners used in mechanical objects, types of surface requirements on blueprints, and interpreting blueprints for casting and weldments.	10	12
2019-2020	934432	MACHINE MAINTENANCE AND REPAIR	This course covers preventive maintenance as well as repair of machine tools. Emphasis is placed on safety, disassembly and assembly of lathes, grinders, saws, and milling machines. Upon completion, students should be able to perform machine maintenance and repair of machine tools.	10	12
2019-2020	934433	ADVANCED COMPUTER NUMERICAL CONTROL TURNING	This course details the use of canned cycles and subprograms in computer numerical control (CNC) turning programs. Upon completing this course, the student should be able to write CNC turning programs using canned cycles and subprograms.	10	12
2019-2020	934434	ADVANCED COMPUTER NUMERICAL CONTROL MILLING	This course details the use of canned cycles and subprograms in computer numerical control (CNC) milling programs. Upon completing this course, the student should be able to write CNC milling programs using canned cycles and subprograms.	10	12
2019-2020	934435	COMPUTER NUMERICAL CONTROL GRAPHICS: TURNING	This course covers techniques involved in writing a program for a multi-axis computerized numeric control (CNC) turning machine using computer assisted manufacturing (CAM) software. In addition, CNC turning machine setup, programming, and operation are detailed. Upon completion, the student should be able to set up, program, and operate a 3-axis CNC turning machine to produce a 2½-axis part using CAM software.	10	12
2019-2020	934436	COMPUTER NUMERICAL CONTROL GRAPHICS: MILLING	This course covers techniques involved in writing a program for a multi-axis computerized numeric control (CNC) milling machine using computer assisted manufacturing (CAM) software. In addition, CNC milling machine setup, programming, and operation are detailed. Upon completion, the student should be able to set up, program, and operate a 3-axis CNC milling machine to produce a 2½-axis part using CAM software.	10	12
2019-2020	934437	ADVANCED BLUEPRINT READING FOR MACHINISTS	This course introduces complex industrial blueprints. Emphasis is placed on auxiliary views, section views, violations of true projection, special views, and interpretation of complex parts and assemblies. Upon completion, students should be able to read and interpret complex industrial blueprints.	10	12
2019-2020	934438	CNC MILLING LAB I	This course covers basic (3-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a 3-axis CNC milling machine to produce a specified part. Related safety, inspection, and process adjustment are also covered.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934439	CNC MILLING LAB II	This course covers advanced (including 4-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a CNC milling machine (including 4-axis) to produce a specified part. Related safety and inspection and process adjustment are also covered.	10	12
2019-2020	934440	CNC TURNING LAB I	This course covers basic computer numeric control (CNC) turning machine setup and operating procedures (inner diameter and outer diameter). Upon completion, the student should be able to load a CNC program and setup and operate a CNC turning machine to produce a simple part. Related safety and inspection and process adjustment are also covered.	10	12
2019-2020	934441	CNC TURNING LAB II	This course covers advanced computer numeric control (CNC) turning machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and setup and operate a CNC turning machine to produce a specified part. Related safety and inspection and process adjustment are also covered.	10	12
2019-2020	934442	MACHINING SKILLS APPLICATION	This course is designed to provide students with a capstone experience incorporating the knowledge and skills learned in the Machine Tool program. Special emphasis is given to student skill attainment.	10	12
2019-2020	934443	COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY	Students work on a part-time basis in a job directly related to machine tool technology. The employer and supervising instructor evaluate students' progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	934444	COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY	Students work on a part-time basis in a job directly related to machine tool technology. The employer and supervising instructor evaluate students' progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	934445	COOPERATIVE EDUCATION IN MACHINE TOOL TECHNOLOGY	Students work on a part-time basis in a job directly related to machine tool technology. The employer and supervising instructor evaluate students' progress. Upon course completion, students will be able to apply skills and knowledge in an employment setting.	10	12
2019-2020	934601	RADIATION PROTECTION AND DETECTION	This course presents the theory of various types of radiation including application detection and shielding. It also covers detection devices such as typical survey meters, core power detectors, and personnel monitoring devices. The course will also discuss how radiation exposure can be minimized and the biological impact of radiation. These courses support the Uniform Curriculum Guide for Nuclear Power Programs.	10	12
2019-2020	934602	REACTOR PLANT CONSTRUCTION AND GENERAL DESIGN CRITERIA	This course provides students with an understanding of the various materials used in the operation of a nuclear power plant. Students will discuss functions and construction of fission product barriers including practical application of the concepts of defense in depth and redundancy and the roles of the various employees in reactor safety. It also covers basic information about major industry operating experience including Three Mile Island and the Chernobyl Nuclear Power Plant accident. These courses support the Uniform Curriculum Guide for Nuclear Power Programs.	10	12
2019-2020	934603	NUCLEAR PLANT SYSTEM I	This course covers basic aspects of the design, layout, and function of all major systems associated with nuclear power plant designs typically used for U.S. power production. This includes components such as pumps, valves, heat exchangers, motors, and generators essential to the safe operation of Pressurized Water Reactors (PWR) and Boiler Water Reactors (BWR). These courses support the Uniform Curriculum Guide for Nuclear Power Programs.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934604	NUCLEAR PLANT SYSTEM II	This course is a continuation of NUC120 covering basic aspects of the design, layout, and function of all major systems associated with nuclear power plant designs typically used for U.S. power production. This includes components such as pumps, valves, heat exchangers, motors, and generators essential to the safe operation of Pressurized Water Reactors (PWR) and Boiler Water Reactors (BWR). These courses support the Uniform Curriculum Guide for Nuclear Power Programs.	10	12
2019-2020	934801	INTRO TO KEYBOARDING AND TECHNOLOGY	This course is designed to enable the student to develop touch keyboarding skills for efficient use of the microcomputer through classroom instruction and lab exercises. Upon completion, the student should be able to demonstrate proper keying techniques and basic computer skills.	10	12
2019-2020	934802	BEGINNING KEYBOARDING	This course is designed to enable the student to use the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information using a keyboard. Upon completion, the student should be able to demonstrate proper technique and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of basic business documents such as memoranda, letters, reports, etc.	10	12
2019-2020	934803	INTERMEDIATE KEYBOARDING	This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and lab exercises. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines from unarranged rough draft to acceptable format. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of business documents.	10	12
2019-2020	934804	ADVANCED KEYBOARDING	This course is designed to assist the student in continuing to develop speed and accuracy using the touch method of keyboarding through classroom instruction and lab exercises. Emphasis is on the production of business documents using decision-making skills. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of high-quality business documents.	10	12
2019-2020	934805	COMPUTER NAVIGATION	This course is designed to introduce the student to the MS Windows® environment through classroom instruction. Emphasis is on Windows as a graphical user interface and includes operations and applications that use the windows environment. Upon completion, the student should be able to demonstrate proficiency in the operation and management of hardware and software as defined by the course syllabus.	10	12
2019-2020	934806	SHORTHAND/SPEEDWRITING	This course is designed to introduce the student to shorthand/speedwriting theory. Emphasis is on the development of skill in reading and writing outlines, taking dictation, and transcribing documents. Upon completion, the student should be able to take dictation read from shorthand outlines.	10	12
2019-2020	934807	WORD PROCESSING	This course is designed to provide the student with basic word processing skills through classroom instruction and outside lab. Emphasis is on the utilization of software features to create, edit, and print common office documents. Upon completion, the student should be able to demonstrate the ability to use industry-standard software to generate appropriately formatted, accurate, and attractive business documents such as memoranda, letters, and reports.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934808	ADVANCED WORD PROCESSING	This course is designed to increase student proficiency in using advanced word processing functions. Emphasis is on the use of industry-standard software to maximize productivity. Upon completion, the student should be able to demonstrate the ability to generate complex documents such as forms, newsletters, and multi-page documents.	10	12
2019-2020	934809	BUSINESS LAW	This course is designed to introduce the student to the fundamentals of business law affecting consumers and citizens. Emphasis is on principles of law dealing with contracts, sales, and commercial papers. Upon completion, the student should be able to demonstrate an understanding of the legal issues affecting business transactions.	10	12
2019-2020	934810	ELECTRONIC CALCULATIONS	This course is designed to give students a job-level competency in using the ten-key touch method and develop the student's ability to solve common business problems with an electronic display-printing calculator. Emphasis is placed on basic mathematical functions in a business context. Upon completion students will be able to perform basic electronic calculating at an acceptable rate of speed and accuracy.	10	12
2019-2020	934811	BUSINESS ENGLISH	This course is designed to develop the student's ability to use proper English. Emphasis is on grammar, spelling, vocabulary, punctuation, word usage, word division, and proofreading. Upon completion, the student should be able to communicate effectively.	10	12
2019-2020	934812	BUSINESS COMMUNICATIONS	This course is designed to provide the student with skills necessary to communicate effectively. Emphasis is on the application of communication principles to produce clear, correct, logically-organized business communications. Upon completion, the student should be able to demonstrate effective communication techniques in written, oral, and nonverbal communications.	10	12
2019-2020	934813	CAREER & PROFESSIONAL DEVELOPMENT	This course is designed to assist the student in preparing for employment. Emphasis is on developing resumes, improving interview techniques, participating in mock interviews, setting goals, conducting job searches, and improving personal and professional image. Upon completion, the student will be able to demonstrate confidence in seeking employment.	10	12
2019-2020	934814	FINANCIAL RECORD KEEPING	This course is designed to provide the student with an understanding of the accounting concepts, principles, and terminology. Emphasis is on the accounting cycle and equation as they relate to different types of business ownership. Upon completion, the student should be able to demonstrate accounting procedures used in a proprietorship, partnership, and corporation.	10	12
2019-2020	934815	ADVANCED FINANCIAL RECORD KEEPING	This course focuses on in-depth principles and practices of the accounting cycle. Emphasis is on the preparation of financial records such as payroll records, vouchers, accruals and deferrals, and related documents. Upon completion, the student should be able to prepare and manage financial records and information.	10	12
2019-2020	934816	COMPUTERIZED FINANCIAL RECORD KEEPING	This course is designed to provide the student with skill in using the microcomputer to enter financial data through classroom instruction and outside lab. Emphasis is on the use of appropriate software in the preparation of journals, financial statements, and selected payroll records. Upon completion, the student will be able to demonstrate the ability to use a microcomputer system to record financial data.	10	12
2019-2020	934817	RECORDS/INFORMATION MANAGEMENT	This course is designed to give the student knowledge about managing office records and information. Emphasis is on basic filing procedures, methods, systems, supplies, equipment, and modern technology used in the creation, protection, and disposition of records stored in a variety of forms. Upon completion, the student should be able to perform basic filing procedures.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934818	MACHINE TRANSCRIPTION	This course is designed to develop marketable skills in transcribing various forms of dictated material through classroom instruction. Emphasis is on the use of microcomputers and a commercial word processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings.	10	12
2019-2020	934819	LEGAL TERMINOLOGY	This course is designed to familiarize the student with legal terminology. Emphasis is on the spelling, definition, pronunciation, and usage of legal terms. Upon completion, the student should be able to communicate effectively using legal terminology.	10	12
2019-2020	934820	LEGAL TRANSCRIPTION	This course is designed to familiarize students with legal terms and provide transcription skill development in the production of legal correspondence, forms, and court documents through classroom instruction and lab exercises. Emphasis is on transcribing error-free legal documents using transcription equipment. Upon completion, students should be able to demonstrate the ability to accurately transcribe legal documents that are appropriately formatted.	10	12
2019-2020	934821	LEGAL OFFICE PROCEDURES	This course is designed to provide an awareness of the responsibilities and opportunities of professional support personnel in a legal environment through classroom instruction and lab exercises. Emphasis is on legal terminology, the production of appropriate forms and reports, and the importance of office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a legal environment.	10	12
2019-2020	934822	MEDICAL TERMINOLOGY	This course is designed to familiarize the student with medical terminology. Emphasis is on the spelling, definition, pronunciation, and usage of medical terms. Upon completion, the student should be able to communicate effectively using medical terminology.	10	12
2019-2020	934823	MEDICAL TRANSCRIPTION	This course is designed to orient students to standard medical reports, correspondence, and related documents transcribed in a medical environment through classroom instruction. Emphasis is on transcribing medical records from dictated recordings. Learn/maintain standards of ethical/professional conduct. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings.	10	12
2019-2020	934824	ADVANCED MEDICAL TRANSCRIPTION	This course is designed to develop skills in medical transcription. Emphasis is on diagnostic studies, laboratory, radiology, and pathology reports. Upon completion, the student should be able to demonstrate proficiency in the preparation of a variety of reports and forms used in the medical environment.	10	12
2019-2020	934825	MEDICAL OFFICE PROCEDURES	This course focuses on the responsibilities of professional support personnel in a medical environment. Emphasis is on medical terms, the production of appropriate forms and reports, and office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a medical environment.	10	12
2019-2020	934826	HEALTH INFORMATION MANAGEMENT	This course is designed to promote an understanding of the structure, analysis, and management of medical records. Emphasis is on managing medical and insurance records, coding of diseases, operations and procedures, and the legal aspects of medical records. Upon completion, the student should be able to maintain medical records efficiently.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934827	ADVANCED HEALTH INFORMATION MANAGEMENT	This course is designed as a continuation of OAD 215 Health Information Management. It is designed to promote an advanced understanding of the structure, analysis, and management of medical and insurance records. Emphasis is on managing medical and insurance records, coding of diseases, operations and procedures, and the legal aspects of medical records. Upon completion, the student should be able to maintain medical records efficiently.	10	12
2019-2020	934828	OFFICE MANAGEMENT	This course is designed to develop skills necessary for supervision of office functions. Emphasis is on issues relating to the combination of people and technology in achieving the goals of business in a culturally diverse workplace, including the importance of office organization, teamwork, workplace ethics, office politics, and conflict-resolution skills. Upon completion, the student should be able to demonstrate effective supervision in the modern office.	10	12
2019-2020	934829	OFFICE PROCEDURES	This course is designed to develop an awareness of the responsibilities and opportunities of the office professional through classroom instruction. Emphasis is on current operating functions, practices and procedures, work habits, attitudes, oral and written communications, and professionalism. Upon completion, the student should be able to demonstrate the ability to effectively function in an office support role.	10	12
2019-2020	934830	ACCOUNTING CONCEPTS AND APPLICATIONS	This course is continuing study of OAD 136 Advanced Financial Record Keeping. Emphasis is on accounting procedures in accounts receivable, depreciation on long-term assets, merchandising inventory, partnerships, corporations, and statement analysis. This course also implements accounting principles through business applications.	10	12
2019-2020	934831	INFORMATION PROCESSING CONCEPTS	This course is designed to introduce the basic concepts and applications of office information systems. Emphasis is on components and capabilities of systems used to produce, communicate, and manage information and career paths for office professionals. Upon completion, the student should be able to demonstrate knowledge of office information systems.	10	12
2019-2020	934832	COMPUTERIZED DESKTOP PUBLISHING	This course is designed to introduce the student to the elements and techniques of page design, layout, and typography through classroom instruction and lab exercises. Emphasis is on the use of current commercial desktop publishing software, graphic tools, and electronic input/output devices to design and print high-quality publications such as newsletters, brochures, catalogs, forms, and flyers. Upon completion, the student should be able to utilize proper layout and design concepts in the production of attractive desktop published documents.	10	12
2019-2020	934833	OFFICE APPLICATIONS	This course is designed to provide the student with a foundation in the use of computerized equipment and application software as tools in the performance of a variety of office tasks through classroom instruction and lab exercises. Emphasis is on the role of the office professional in the selection and application of appropriate technology to the specific task or combination of tasks. Upon completion, the student should be able to demonstrate proficiency in the selection of appropriate computerized tools to complete designated tasks.	10	12
2019-2020	934834	THE COMPUTERIZED OFFICE	This course is designed to enable the student to develop skill in the use of integrated software through classroom instruction and lab exercises. Emphasis is on the use of computerized equipment, software, and communications technology. Upon completion, the student should be able to satisfactorily perform a variety of office tasks using current technology.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	934835	TRENDS IN OFFICE TECHNOLOGY	This course is designed to research current trends in office technology. Emphasis is on advances in technology relevant to the office environment such as electronic mail, multimedia interaction, presentation hardware and software, and Internet use. Upon completion, the student should be able to demonstrate an awareness of current technological applications for the modern office.	10	12
2019-2020	934836	CPS/CAP REVIEW	This course, Certified Professional Secretary/Certified Administrative Professional Review, is designed to provide skills and knowledge in office administration, office systems and technology, and management. Emphasis is on the knowledge and skills required of those who qualify as professional administrative support. Upon completion, the student should be able to demonstrate knowledge and successful performance of skills in a variety of business-related subjects.	10	12
2019-2020	934837	OFFICE CO-OP	This course is designed to provide the student with an opportunity to work in an office environment. Emphasis is on the integration of classroom learning with on-the-job experiences that relate meaningfully to office careers. Upon completion, the student should be able to demonstrate the ability to apply knowledge and skills gained in the classroom to an actual work situation.	10	12
2019-2020	934838	OFFICE INTERNSHIP	This course is designed to provide the students with an opportunity to work in an office environment. Emphasis is on the efficient and accurate performance of job tasks. Upon completion, the student should be able to demonstrate successful performance of skills required in an office support position.	10	12
2019-2020	934839	SPREADSHEET APPLICATIONS	This course is designed to provide the student with a firm foundation in the use of computerized equipment and appropriate software in performing spreadsheet tasks through classroom instruction and lab exercises. Emphasis is on spreadsheet terminology and design, common formulas, and proper file and disk management procedures. Upon completion, the student should be able to use spreadsheet features to design, format, and graph effective spreadsheets.	10	12
2019-2020	934840	DATABASE APPLICATIONS	This course is designed to provide the student with an understanding of the concepts of database management through classroom instruction and lab exercises. Emphasis is on the use of database software for business applications. Upon completion, the student should be able to create and manipulate data files and format output such as documents and reports.	10	12
2019-2020	934841	DATA ENTRY	This course is designed to provide the student with a firm foundation in the use of computerized equipment and appropriate software in performing data-entry tasks through classroom instruction and lab exercises. Emphasis is on the basic features of data-entry software, terminology, and proper file and disk management procedures. Upon completion, the student should be able to demonstrate a basic understanding of data-entry applications.	10	12
2019-2020	934842	OFFICE GRAPHICS AND PRESENTATIONS	This course is designed to provide the student with a foundation in the use of the computer and appropriate application software in the production of business slides and presentations through classroom instruction and lab exercises. Emphasis is on available software tools, presentation options and design, as well as such presentation considerations as the make-up of the target audience. Upon completion, the student should be able to demonstrate the ability to design and produce a business presentation.	10	12
2019-2020	935001	FUNDAMENTALS OF BAKING	This introductory course in baking will cover basic ingredients, weights and measures, function of standardized recipe/formula, and hands-on experience preparing a variety of baked goods. Topics will include cookies, yeast-leavened breads, quick breads, pies, pound cakes and laminated doughs.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935002	CHOCOLATE AND TRUFFLES	This course is a specialty hands-on course in chocolate, focusing on: tempering, chocolate candy making and the use of chocolate as a centerpiece medium. The student will have competency in chocolate to apply in the industry.	10	12
2019-2020	935003	CAKE DECORATING AND DESIGN	This course focuses on preparing cake, tortes, individual Viennese cakes, and piping skills. Emphasis is placed on piping different mediums such as; buttercream, royal icing; assembling cakes with different batters.	10	12
2019-2020	935004	CAKE DECORATING AND DESIGN II	This cake decorating course emphasis the preparation of roll fondant cakes and gum paste flowers. Students will be introduced to elaborate technique of runouts, extension work, overpiping and different styles of producing gum paste flowers.	10	12
2019-2020	935005	SPECIALTY EUROPEAN CAKES	This course focuses on the preparing of European tortes with an emphasis placed on different icing mediums; such as buttercream, pastry cream and chantilly cream; also assembling cakes with different batters, such as Genoise and Japonaise. Upon completion of course the student should be able to assemble tortes with different mediums, batters, and assemble styles.	10	12
2019-2020	935006	ESSENTIALS OF BREAD BAKING	The student will learn the simple steps in bread baking from proper use of tools and equipment; the critical time – temperature relationship; ingredient functions, dough handling and mixing; fermentation; shaping and scoring; to baking.	10	12
2019-2020	935007	WORLD CLASS BREADS	The student will learn to make world class breads using Old World techniques and original methods from preferment sponges and doughs. The secrets to crusty French bread, and aromatic hearth bread, and sourdough bread will be revealed.	10	12
2019-2020	935008	PASTRIES I	This is an introductory course to the basics of pastries. Emphasis is on the development of techniques and skills necessary for execution of country-style desserts, decorated cake, custards, and creams, frozen desserts and basic chocolate work.	10	12
2019-2020	935009	PASTRIES II	This course is a continuation of PAS173, Pastries I. This course focuses on the development of techniques and skills necessary for execution of decorated cakes, individual desserts, plated desserts, frozen desserts, modernistic desserts, chocolate artistry, and sugar work.	10	12
2019-2020	935010	BAKING AND PASTRY CAPSTONE CLASS	In this course students will demonstrate their mastery of the required competencies for the completion of a Baking and Pastry Arts degree. Students will complete their competency checklist and demonstrate their baking abilities by preparing a variety of baked and confection items to be judged by a panel of chefs.	10	12
2019-2020	935011	FOUNDATIONS OF BAKING	This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, pound cakes, cookies, and appropriate filling and finishing techniques. Upon completion, students should be able to prepare and evaluate baked products.	10	12
2019-2020	935012	ADVANCED BAKING	This course is a continuation of PAS 204. Students will focus on more advanced topics in baking that include creams, classical desserts, frozen desserts, tableside desserts, cakes, petite fours and marzipan.	10	12
2019-2020	935013	COMPETITION TEAMS	This course may be repeated for credit. The student will learn ACF Hot Foods Competition and ACF Knowledge Bowl Competition. This course will teach the student class A, B, and C in professional competition.	10	12
2019-2020	935014	DISTINGUISH TOPICS IN BAKING	This course provides specialized instruction in various areas related to the baking industry. Emphasis is placed on meeting student's needs.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935015	DISTINGUISH TOPICS IN PASTRY ARTS	This course provides specialized instruction in various areas related to the Pastry Arts industry. Emphasis is placed on meeting student's needs.	10	12
2019-2020	935016	FIELD EXPERIENCE	A minimum of 150 hours of supervised practical experience in an approved food service system assigned by the coordinator. Students are supervised jointly by director of job and by the college instructor. Students will gain practical experience in food services. This course may be repeated for credit.	10	12
2019-2020	935201	FUNDAMENTALS OF PROCESS TECHNOLOGY	This course will provide an overview and an introduction to process operations within process industries. Topics will include process technician duties and responsibilities, an introduction to plant process flows, process types of equipment and controls, process utilities and how these systems operate.	10	12
2019-2020	935202	PROCESS TECHNOLOGY I, EQUIPMENT	This course will provide an overview and an introduction to process operations within process industries. Topics will include process technician duties and responsibilities, an introduction to plant process flows, process types of equipment and controls, process utilities and how these systems operate.	10	12
2019-2020	935203	INTRODUCTION TO AUTOMATION TECHNOLOGIES	This course is an introduction to technologies, concepts, and tools used in an automated manufacturing environment. Students are introduced to basic electronics and Ohm's Law, programmable logic controllers, computer programs, process control, sensors, variable frequency motor and controls, servo motors and controls, pneumatics, hydraulics, precision measurements, quality and 6 sigma, lean manufacturing, robotics, man machine interfaces, serial electronic communication, system integration, industrial safety and OSHA, and project management.	10	12
2019-2020	935204	INTRODUCTION TO PULP AND PAPER TECHNOLOGY	This course introduces the history and development of the pulp and paper industry plus wood gathering through the wood yard operations. Topics include wood and fiber as a raw material resource, wood formation, properties of cellulose, plus some equipment and processes utilized during the various pulping operation. Upon completion, students should be able to discuss the history of the pulp and paper industry, collection and processing of wood, and the various methods of pulping technology.	10	12
2019-2020	935205	INSTRUMENTATION I	This course covers process variables and various instruments used to sense, measure, transmit and control these variables. It introduces the student to control loops and the elements that are found in different types of loops such as controllers, regulators and final control elements. It concludes with a study of instrumentation drawings and diagrams, and a unit on troubleshooting instrumentation.	10	12
2019-2020	935206	PULP MANUFACTURING TECHNOLOGY	A comprehensive overview of pulp mill operations including pulping, pulp processing and bleaching technology, process variables, equipment, terminology and chemical recovery. Specific topics may include fiber supplies and their properties; wood and chip preparation; Kraft, sulfite, mechanical pulping; equipment; process variables; chemical reactions involved in the pulping and recovery processes; pulp processing including washing, screening, and cleaning; bleaching, chemical recovery (evaporation, combustion, recausticizing). Laboratory experiences will include hands-on or demonstrations of testing chips, pulp, black liquor and white liquor properties. Upon completion, students should be able to discuss the wood pulping processes, from fiber collection and cooking through various methods of washing, bleaching, and recovery.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935207	INTRODUCTION TO PROCESS TECHNOLOGY	This course provides a basic orientation for operators in the chemical process industries and introduces many of the terms and ideas which will be encountered in the workplace. Topics include operator roles, responsibilities, expectations, terminology, liabilities, chemistry, physics, basic plant equipment, general product handling, flow diagrams, utility systems, plant organization, and the basics of process control. Upon completion, students should have a general knowledge of the tasks, responsibilities, skills and attitude necessary to be a chemical operator in a process industry.	10	12
2019-2020	935208	PAPER AND CHEMICAL PROCESSES	This course includes types of cooking equipment, various steps in pulp processing, operating strategies and economics, and many varied steps in the actual manufacture of paper. Topics include steps and processes which do not require the extensive use and understanding of the laws of chemistry. Upon completion, students should be able to draw and follow a basic flow diagram of chips through the cooking/screening/cleaning process and to and through the paper machine.	10	12
2019-2020	935209	PAPER MANUFACTURING TECHNOLOGY	This course includes an overview of paper mill operations, including fiber raw materials (virgin and recycled), stock preparation refining, chemical additives, headbox operations, sheet forming and paper machine wet end operations, twin wire gap and multi ply forming, pressing, drying, machine clothing, calendaring, and winding. Laboratory experiences will include hands on or demonstration of paper properties and tests. Topics include steps and processes which do not require the extensive use and understanding of the laws of chemistry. Upon completion, students should be able to understand papermaking processes and have the ability to interact knowledgeably with process engineers, operators, suppliers, and technicians.	10	12
2019-2020	935210	INDUSTRIAL PROCESSES	This course provides a familiarization with the general types of processes found in the paper and chemical industries, including distillation, fractionation, absorption, extraction, stripping, washing, screening, cleaning, filtration, drying, evaporation, centrifugation, product blending, and mixing. Topics include generic industrial processes, especially distillation, utilizing computer-based training and simulation to conduct realistic training in control room operations. Upon completion, students should be able to understand and appreciate the skills, efforts, communication, and especially the teamwork necessary to operate a successful industrial process.	10	12
2019-2020	935211	CHEMICAL RECOVERY	The overall course objective is to give students increased understanding of the Chemical Recovery processes by gaining a more in depth and comprehensive overview of chemical recovery operations, process variables, equipment, terminology, by-product recovery, and the role of the pulp mill in the forest bio-refinery. Topics include an overview of recovery and properties of kraft black liquor, multiple effects evaporator operations including fundamentals, equipment types, internal operations, variables, and deposit control; recovery boiler operations, including equipment black liquor spraying, combustion, air variables, deposit control and operating safety; re-causticizing operations including equipment, chemical reactions, variables, green and white liquor clarification; lime kiln operations including equipment, chemical reactions, variables, and deposit control; sulfite chemical recovery; kraft by-product recovery including tall oil soap and turpentine; and the forest biorefinery.	10	12
2019-2020	935212	TISSUE MANUFACTURING TECHNOLOGY	The overall course objective is to provide understanding in tissue properties and manufacturing performance. Topics include tissue properties; fiber properties and effects on tissue; stock preparations including refining; tissue chemicals including dry and wet strength, debonders, retention aids, deposits, and foam control; tissue machine technology including approach systems, headboxes, coating, creping, calendaring, and converting; tissue equipment including machine forming and press fabrics, Yankee dryers, and Through Air Drying (TAD).	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935213	WET END CHEMISTRY	The overall objective of this course is to provide participants with an understanding of papermaking (wet-end of the paper machine) chemistry. Topics include papermaking chemical additives, including dry and wet strength adhesives, sizing, fillers, pigments, color, and brightening agents, drainage and retention, formation aids, and deposit control; how these chemicals are used to control product properties; how they are used to improve process efficiency; case studies and practical examples; and wet end chemistry applications in a variety of paper mill situations.	10	12
2019-2020	935214	PAPER COATING TECHNOLOGY	The learning objective of this course is to increase understanding of aqueous coating of paper and board. Topics include coated paper & board market, principles of printing, print properties, grade terminology, pigments, adhesives, including starch, proteins, latex; other additives, including defoamers, biocides, runnability chemicals, dispersants; coating calculations; coating application equipment including size press, roll, rod, blade, air knife, spray and curtain coaters; drying of coating, calendering, barrier coatings, and coating properties testing, print quality testing, and barrier properties testing.	10	12
2019-2020	935215	TECHNOLOGY AND SCIENCE OF PAPER RECYCLING	This course has been designed to increase the ability to make decisions to improve the paper and board recycling process. Topics to be covered include overview of US paper recycling industry, issues with mixed recycled paper streams, effect of recycling on the fiber characteristics, equipment used in the recycling of paper and optimizing operation of each one, image analysis, deinking chemicals, and system design for specific paper grades.	10	12
2019-2020	935216	ENVIRONMENTAL CONTROL TECHNOLOGY	An overview of the environmental control technologies associated with the pulp, paper and chemical process industries. Topics include safety of personnel, safe use of resources, raw water treatment methods, air pollution abatement methods and equipment, wastewater treatment methods and equipment, solids disposal methods and equipment, operation of the EPA; compliance with U.S. governmental regulations for all waste streams – air, water, and solids disposal. Upon completion, students should be able to describe common handling methods for various waste disposal streams such as solids handling, liquid effluent treatment systems and gas handling/cleaning systems. Laboratory experiences will include touring and/or operating a waste treatment plant and raw water treatment plant and testing for contaminants in waste streams.	10	12
2019-2020	935217	PAPER AND CHEMICAL MANUFACTURING/ENVIRONMENTAL	This course is designed to address the chemical processes in a paper or chemical plant, environmental issues in the paper and chemical industries, including the safety of personnel, safe use of resources, HAZWOPER, HAZCOM and compliance with governmental regulations. Topics include conversion of chips to pulp, bleaching, emphasis on the chemical recovery process, origin, duties, organization and operation of the EPA and their significance to the paper and chemical industries. Upon completion, students should be able to explain some of the basic chemistry in the paper industry, and be able to discuss environmental issues most pertinent in the paper and chemical industries.	10	12
2019-2020	935218	INSTRUMENTATION II	This course introduces the student to switches, relays, and annunciator systems, and moves on to discuss signal conversion and transmission. Students move on to learn about digital control, programmable logic control and distributed control systems before ending the course with a discussion of instrumentation power supplies, emergency shutdown systems and instrumentation malfunctions.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935219	PROCESS TECHNOLOGY II – SYSTEMS	This course is a study of the interrelations of process equipment and process systems. Students will be able to arrange process equipment into systems; describe the purpose and function of specific process systems, explain how factors affecting process systems are controlled under normal conditions, and recognize abnormal process conditions. Students are also introduced to the concept of system process control manufacturing plant process economics.	10	12
2019-2020	935220	UNIT OPERATIONS	This course is an introduction to the equipment and processes used in the paper and chemical industries. Topics include a study of vessels, piping systems, valves, pumps, heat exchangers, and filtering systems. Upon completion, students should be able to demonstrate knowledge of vessels, feed systems, and equipment used in process industries.	10	12
2019-2020	935221	UNIT MAINTENANCE	This course is designed to provide instruction in maintenance procedures as applied to pulp/paper and chemical industries. The student will study and perform maintenance on piping systems, bearings, boilers, valves, pumps and heat exchangers. The student will also learn proper chemical handling procedures, lubricating techniques, and surface preparation practices and techniques.	10	12
2019-2020	935222	PROCESS TECHNOLOGY III – OPERATIONS	This course provides an overview or introduction into the field of operations within the process industry. Students will use existing knowledge of equipment, systems and instrumentation to understand the operation of an entire unit including using a Process Control simulator.	10	12
2019-2020	935223	STATISTICAL PROCESS CONTROL	This course focuses on statistics and probability and how they apply to control charts with heavy emphasis on the normal curve and its many applications in quality and process control. Emphasis is placed on the development and use of control charts in industry. Upon completion, students should be able to construct and use control charts plus understand and use probability to make better operating decisions.	10	12
2019-2020	935224	PROCESS TROUBLESHOOTING	This course involves instruction in different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause-effect relationships and reasoning. In addition to troubleshooting static equipment problems as presented within a textbook, dynamic problems will also be presented via a process simulator for problem resolution by the student.	10	12
2019-2020	935401	INTRODUCTION TO PLUMBING	This course covers fundamental plumbing principles, practices, and history. Topics include basic plumbing principles, safety, job seeking skills, blueprint reading, plumber's math, shop orientation, and school policy. Upon completion, students will be able to seek employment, understand basic plumbing principles, read and interpret blueprints, work safely, and use formulas to solve plumbing problems involving measurement and layouts. This is a CORE course.	10	12
2019-2020	935402	PLUMBING APPLICATIONS	Students perform various basic plumbing and pipefitting tasks. Safety and regulatory compliance is emphasized throughout this course. At the conclusion of this course students will be able to develop basic plumbing drawings and schematics, use hand and power tools, measure fittings, and join pipe with oxy-fuel equipment.	10	12
2019-2020	935403	PIPES & FITTINGS	This course includes the theory of joining pipe and fittings. Topics include methods of joining pipe and fittings, selecting and using power tools, and methods of securing piping. Upon completion students will be able to identify pipe and fittings, identify tools, properly care for tools and identify various types of pipe securing devices. This is a CORE course.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935404	JOINING PIPES & FITTINGS	This course covers identifying pipe and fittings, proper methods for joining all types of pipe and fittings, hanging and securing pipe and using materials and tools. Emphasis is on all plumbing materials, tools, suppliers, equipment and methods. Upon completion, students will be able to join various pipe and fittings.	10	12
2019-2020	935405	PRESSURE & NON-PRESSURE SYSTEMS	This course covers pressure and non-pressure systems including piping for potable water, drainage, waste, vent, gas, air, and water. Topics include types of plumbing systems, and system design and size. At the conclusion of this course students will be able to rough-in basic plumbing systems for pressure and non-pressure pipe systems. This is a CORE course.	10	12
2019-2020	935406	PRESSURE & NON-PRESSURE SYSTEMS APPLICATIONS	Students perform various basic pressure and non-pressure pipe systems tasks. Safety and regulatory compliance is emphasized throughout this course. At the conclusion of this course students will be able to rough-in basic plumbing systems for pressure and non-pressure pipe systems.	10	12
2019-2020	935407	PLUMBING CODES	This course includes reading and interpreting international codes, local codes, and general regulations. Emphasis is on basic principles, definitions, materials, facility requirements, and technical review. Upon completion, students will be able to read and interpret applicable codes. This is a CORE class.	10	12
2019-2020	935408	CODE APPLICATION	This course is an application of PLB 117. Emphasis is on fixture unit value, sizing systems, minimum plumbing requirements and construction of pressure and non-pressure systems according to code. Upon completion students will be able to calculate and construct pressure and non-pressure systems.	10	12
2019-2020	935409	PLUMBING & REPAIR & INSTALLATION	This course enables students to read and follow schematics/diagrams/rough-in sheets to install or repair plumbing fixtures, to troubleshoot and make repairs. Topics include removing, replacing and repairing plumbing fixtures, new installations and troubleshooting. Upon completion, students will be able to make plumbing repairs and install plumbing fixtures.	10	12
2019-2020	935410	PLUMBING REPAIR & INSTALLATION LABORATORY	This course is an application of PLB 211. Topics include repairing and installing plumbing fixtures, and choosing appropriate fixtures for the job. Upon completion, students will be able to install new fixtures and remove, repair, and replace existing plumbing fixtures	10	12
2019-2020	935411	PROCESS PIPING	This course focuses on various piping procedures and material used to transport materials in industrial processes. Topics include modern materials and installation techniques. Upon completion students will be able to identify and will understand the techniques of process piping installation, layouts and design.	10	12
2019-2020	935412	PROCESS PIPING APPLICATIONS	This course is an application of PLB 213. Topics include installing process piping. Upon completion, students will be able to install process piping.	10	12
2019-2020	935413	PUMPS & COMPRESSORS	This course introduces students to pump and compressor equipment used in plumbing systems. Topics include using mechanical means to move fluid through piping systems. Upon completion, students will have skills needed in selecting and installing pumps and compressors.	10	12
2019-2020	935414	PUMP & COMPRESSOR APPLICATIONS	This course covers pumps and compressors in plumbing applications. Topics include selection, installation, maintenance and repair of pumps and compressors. Upon completion, students will be able to trouble shoot remove, repair, maintain, and install pumps and compressors.	10	12
2019-2020	935415	MEDICAL GAS	This course covers the performance, maintenance, installation, and testing of medical gas systems. The major topics are nonflammable and flammable gas systems, laboratory gas, and vacuum systems and their sub-assemblies. Upon completion students will understand the hazards associated with medical gas systems, and will be knowledgeable of system components.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935416	MEDICAL GAS LAB	This course covers medical gas systems. Topics include layout, assembly, installation, troubleshooting and repair of medical gas systems. Upon completion students will be able to assemble components of gas systems in accordance with medical gas criteria.	10	12
2019-2020	935601	INTRODUCTION TO PARALEGAL STUDY	This course introduces the paralegal profession and the legal system. Topics include an overview of major areas of legal practice, ethics, legal analysis and research, professional development including certification and employment, and related topics.	10	12
2019-2020	935602	BASIC RESEARCH AND WRITING	This course introduces the techniques of legal research and writing. Emphasis is placed on locating, analyzing, applying, and validating sources of law. Topics include legal research, legal writing, proper citation, and electronic research. This is a CORE course.	10	12
2019-2020	935603	ADVANCED LEGAL RESEARCH AND WRITING	This course requires the student to apply research, analysis, and writing techniques to substantive legal issues. Assignments include preparation of legal memoranda and other documents and the more efficient use of electronic research methods.	10	12
2019-2020	935604	COMMERCIAL LAW	This course covers contracts, selected portions of the Uniform Commercial Code, and forms of business organization. This is a CORE course.	10	12
2019-2020	935605	CRIMINAL LAW AND PROCEDURE	This course introduces substantive and procedural criminal law including elements of state and federal crimes, defenses, constitutional issues, pre-trial process, and other related topics. This is a CORE course.	10	12
2019-2020	935606	SELECTED TOPICS IN PARALEGAL	This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline.	10	12
2019-2020	935607	REAL PROPERTY LAW	This course emphasizes the study of real property law. Topics include the distinction between real and personal property, various estates and interests in property, and the mechanics of conveyance, encumbrances, and closing procedures. This is a CORE course.	10	12
2019-2020	935608	CORPORATE LAW	This course covers the legal aspects of creating, operating, and maintaining a business and includes a review of commonly used forms of business organization.	10	12
2019-2020	935609	DOMESTIC LAW	This course covers laws governing domestic relations. Topics include marriage, separation, divorce, child custody, support, property division, adoption, domestic violence, and other related topics. This is a CORE course	10	12
2019-2020	935610	WILLS, TRUSTS, AND ESTATES	This course covers wills, trusts, and inheritance. Topics include types of wills, the law of intestacy (inheritance), probating estates, and alternatives to probate. The course also covers trusts, medical directives, and associated litigation. This is a CORE course.	10	12
2019-2020	935611	BANKRUPTCY AND COLLECTIONS	This course provides an overview of the laws of bankruptcy and the rights of creditors and debtors. Topics include bankruptcy procedures and estate management, attachment, claim and delivery, repossession, foreclosure, collection, garnishment, and post-judgment collection procedure.	10	12
2019-2020	935612	CIVIL LAW AND PROCEDURE	This course examines the Federal Rules of Civil Procedure, the Alabama Rules of Civil Procedure, and trial procedure. This is a CORE course.	10	12
2019-2020	935613	CONSTITUTIONAL LAW	This course is designed to give an overview of the United States Constitution and its application in the American Legal System.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	935614	LAW OFFICE MANAGEMENT AND PROCEDURES	This course focuses on the management, organization and policies and procedures of a law office.	10	12
2019-2020	935615	INTERNSHIP	This course provides students opportunities to work in paid or unpaid positions in which they apply paralegal skills and knowledge. This course requires a minimum of 100 hours of practical experience in the legal field.	10	12
2019-2020	935801	INTRODUCTION TO PUBLIC SAFETY COMMUNICATIONS	This course provides the student with an introduction to telephone and radio communications skills, interpersonal communications, basics of call handling, legal issues in public safety communications and technologies for the telecommunicator. This course will provide the student information necessary to understand the job of a public safety telecommunicator and is the foundation to begin working in a police, fire, EMS or combined service communications center.	10	12
2019-2020	935802	EMERGENCY MEDICAL DISPATCHING	This course is designed to prepare the student to receive a call requesting assistance for emergency medical services (EMS) and allocate community resources in response to requests. Upon course completion, the student will be qualified to provide pre-arrival medical instructions to the caller, and post-dispatch information to the responding agencies.	10	12
2019-2020	935803	ROLE IN HOSTAGE NEGOTIATIONS	This course is designed to provide the student critical knowledge of handling high risk calls. Many negotiation techniques will be addressed, including handling initial calls from suicide/barricaded subjects in a proper manner in order to assist hostage negotiators.	10	12
2019-2020	935804	HANDLING OF HAZARDOUS MATERIALS EVENT	This course is designed to provide the knowledge necessary for handling events involving hazardous material(s). Basic knowledge in communication management of special circumstances involving chemical, biological, and radiological events will be addressed. Additional topics include Materials Identification, Personal Protective Equipment (PPE), Decontamination, Victim Rescue & Recovery, and Evidence Preservation.	10	12
2019-2020	935805	ADVANCED PUBLIC SAFETY COMMUNICATIONS	This course is designed as an in-depth study of telecommunication center operations. Topics include organizational structure, human resources, policies and procedures, budgetary processes, and legal/liability issues.	10	12
2019-2020	936001	RENEWABLE TECHNOLOGY AWARENESS	This course provides a comprehensive overview of renewable technology. Subjects covered in this course will include energy analysis and awareness, HVAC ratings and options, electrical production and consumption, plumbing for conservation, hot water, landscaping, fire protection, wastewater reuse, and LEED certification. Students will also learn about local, state and national codes and regulations. A presentation of current government rebates and tax credits will be included.	10	12
2019-2020	936002	BIO-FUELS I	This course is designed to provide an introduction to the fundamentals of bio-based fuels. Emphasis is placed on handling and storage guidelines, basic chemistry of bio-fuels, production methods, and the social, environmental, and economic impacts of bio-fuels. Upon completion students should be able to demonstrate a general understanding of bio-fuels.	10	12
2019-2020	936003	BIO-ENERGY TECHNOLOGY	This course provides an in-depth study of fuel cell technology, smart grid technology, electricity, biomass gasification and bio-fuels business models. Upon completion students should possess a practical knowledge of bio-energy technology and facility operation.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936004	PHOTOVOLTAIC PRINCIPLES & DESIGN	This course covers basic principles and design of photovoltaic (PV) systems. Upon completion of the course, students should have demonstrated a basic understanding of PV markets and applications, safety basics, electricity basics, solar energy fundamentals, PV module fundamentals, system components, PV system sizing and electrical and mechanical design, and performance analysis, maintenance and troubleshooting. The course prepares the student to take the National American Board of Certified Energy Practitioners (NABCEP) PV Entry Level Exam. Though highly recommended, taking the exam is not a mandatory requirement of the course.	10	12
2019-2020	936005	SOLAR THERMAL PRICIPLES	This course provides a comprehensive overview of solar thermal design, installation and troubleshooting. Topics include solar space heating, solar hot water, solar pool heating and solar cooling for both new and existing construction. Students will learn to assess the viability of solar thermal energy for given factors. Students will also learn about local, state and national codes and regulations. This course will cover all topics required by the National Board of Certified Energy Practitioners (NABCEP).	10	12
2019-2020	936006	BIO-FUELS ANALYTICS	This course is designed to address quality control management during all phases of the bio-fuels production process. Topics include stock analysis, in-process quality monitoring, and standards compliance with national and international bio-fuels specifications. Upon completion students should be able to demonstrate safe and accurate laboratory practices as well as an understanding of various quality control techniques.	10	12
2019-2020	936007	BIOPROCESS PRACTICES	This course provides a study of plant operations including various plant utility systems and detailed study of the varied plant environments in a bioprocessing facility. Emphasis is placed on quality mindset and principles of validation through applications of monitoring procedures. Upon completion, students should be able to demonstrate the rigors of industry regulation and its necessity.	10	12
2019-2020	936008	PHOTOVOLTAIC SYSTEMS INSTALLATION AND SERVICING PROCEDURES	This course covers installation and serving procedures related to photovoltaic (PV) systems. Upon completion of the course, students should have demonstrated a basic understanding of related safety, site surveys, mechanical and electrical design, installation process, performance analysis, troubleshooting, and maintenance. The course prepares the student to take the National American Board of Certified Energy Practitioners (NABCEP) PV System Installer Exam. Though highly recommended, taking the exam is not a mandatory requirement of the course.	10	12
2019-2020	936201	INTRODUCTION TO BROADCASTING	This course surveys the history, growth, and development of radio, television, and related media in the United States with emphasis on social, cultural, and economic implications and special consideration given to regulations and current issues.	10	12
2019-2020	936202	VOICE AND DICTION FOR BROADCASTING	This course provides exercises designed to improve individual standard broadcast English pronunciation with focus on the individual's regional, ethnic or native language pronunciation. Skills in the areas of news reading, sportscasting, commercial salesmanship and public service script reading, ad lib announcing, vocabulary and interviewing are also developed.	10	12
2019-2020	936203	AUDIO PRODUCTION I	This course provides a foundation to the basic concepts that apply to all aspects of audio production. It is an introduction to basic audio techniques for film, radio, and television production. Emphasis is placed on effective use of words, music and/or sound effects in the production of audio. Audio production and post-production are covered, with a focus on production. The development of sound technology and its influence on various media, a well as radio history are examined.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936204	RADIO BROADCASTING/AUDIO CAREERS I	This course is an introduction to the equipment, operations and procedures in a radio station. Emphasis is placed on specific equipment that is used in the industry along with every day operations and procedures of a station. Upon completion the students will have an understanding of the equipment & operations of a radio station.	10	12
2019-2020	936205	TELEVISION/VIDEO PRODUCTION I	The theory and application of television media and production techniques are covered in this course through an examination of the equipment, process, and technology required in production for television and related media.	10	12
2019-2020	936206	MEDIA PRE-PRODUCTION I	This course is a study of and practice in techniques and skills used in planning for various types of media projects. The class explores all aspects of preproduction planning for media projects. A focus is placed on the role of producer, and the process of taking a concept from inception to completion through the development phase of the media production process. A special emphasis is placed on scriptwriting.	10	12
2019-2020	936207	VIDEO PRODUCTION I	This class provides demonstrations and practice regarding the basics of the video production process. The course introduces students to basic video production techniques and provides a basic overview of film and television theory and criticism. It provides a combination of theory and hands-on exercises in order for students to learn the equipment and techniques used in media production and editing. Basic shooting and editing techniques are introduced.	10	12
2019-2020	936208	MEDIA POSTPRODUCTION I	This class focuses on both the technical and theoretical aspects of videotape editing. Students are provided with hands-on training and are required to produce various nonlinear editing exercises, exploring various editing techniques and approaches in a digital environment.	10	12
2019-2020	936209	DIGITAL PHOTOGRAPHY FOUNDATION	This course introduces students to digital imaging techniques. Emphasis is placed on the technical application of the camera, digital photographic lighting methods, and overall composition. Upon completion, students should be able to take digital images and understand the technical aspects of producing high quality photos.	10	12
2019-2020	936210	PRACTICUM IN RADIO/AUDIO I	This course offers supervised campus experience in radio/audio broadcasting with emphasis in the planning, production and editing of electronic media announcements and programs.	10	12
2019-2020	936211	PRACTICUM IN RADIO/AUDIO II	This course offers supervised campus experience in radio/audio broadcasting with emphasis in the planning, production and editing of electronic media announcements and programs.	10	12
2019-2020	936212	PRACTICUM IN RADIO/AUDIO III	This course offers supervised campus experience in radio/audio broadcasting with emphasis in the planning, production and editing of electronic media announcements and programs.	10	12
2019-2020	936213	PRACTICUM IN TELEVISION/VIDEO I	This course offers supervised campus experience in video/television broadcasting with emphasis in the planning, production and editing of electronic media, announcements and programs. Each semester this sequence of classes will focus on different aspects of the subject.	10	12
2019-2020	936214	PRACTICUM IN TELEVISION/VIDEO II	This course offers supervised campus experience in video/television broadcasting with emphasis in the planning, production and editing of electronic media, announcements and programs. Each semester this sequence of classes will focus on different aspects of the subject.	10	12
2019-2020	936215	PRACTICUM IN TELEVISION/VIDEO III	This course offers supervised campus experience in video/television broadcasting with emphasis in the planning, production and editing of electronic media, announcements and programs. Each semester this sequence of classes will focus on different aspects of the subject.	10	12
2019-2020	936216	ELECTRONIC NEWS GATHERING I	This course provides training for television and media news production. The areas of camera operation, lighting and audio in ENG settings for interview or event coverage and use of B-roll footage will be the focus.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936217	INTERNSHIP IN RADIO OR TELEVISION BROADCASTING	This course offers supervised field experience in radio or television broadcasting or related areas.	10	12
2019-2020	936218	AUDIO PRODUCTION II	This class provides a further exploration of concepts that apply to all aspects of audio production. It is an examination of basic audio techniques for film, radio, and television production. Audio production and post-production are covered, with a focus on audio editing/post-production.	10	12
2019-2020	936219	RADIO BROADCASTING/AUDIO CAREERS II	This course covers the management procedures and different sales methods involved in today's media outlets. Emphasis is placed on specific management positions & their responsibilities along with different sales & marketing applications. Upon completion the student will be able to recognize the requirements of each management position and understand different sales & marketing approaches in today's media.	10	12
2019-2020	936220	TELEVISION/VIDEO PRODUCTION II	This course is a continuation of RTV 117 with emphasis on the theory and application of television/video production, direction, and editing.	10	12
2019-2020	936221	VIDEO PRODUCTION II	This class provides further demonstrations and practice regarding the video production process. Students are further introduced to basic video production techniques and the course provides an overview of film and television theory and criticism. It provides a combination of theory and hands-on exercises in order for students to learn the equipment and techniques used in media production. Advanced instruction in video production is provided through this hands-on, production-intensive course.	10	12
2019-2020	936222	MEDIA POSTPRODUCTION II	This course includes further instruction in nonlinear editing with emphasis on visual effects, transitions, editing shortcuts and text. The course explores current postproduction techniques, examining various editing styles and current video technology. Concepts related to edit decisions and the management of media are developed through exercises and assignments. Specific issues relating to aesthetics of editing are also discussed.	10	12
2019-2020	936223	PRACTICUM IN RADIO/AUDIO IV	This course offers supervised campus experience in radio/audio broadcasting with emphasis in the planning, production and editing of electronic media announcements and programs.	10	12
2019-2020	936224	PRACTICUM IN RADIO/AUDIO V	This course offers supervised campus experience in radio/audio broadcasting with emphasis in the planning, production and editing of electronic media announcements and programs	10	12
2019-2020	936225	PRACTICUM IN RADIO/AUDIO VI	This course offers supervised campus experience in radio/audio broadcasting with emphasis in the planning, production and editing of electronic media announcements and programs.	10	12
2019-2020	936226	PRACTICUM IN TELEVISION/VIDEO IV	This course offers supervised campus experience in video/television broadcasting with emphasis in the planning, production and editing of electronic media, announcements and programs. Each semester this sequence of classes will focus on different aspects of the subject.	10	12
2019-2020	936227	PRACTICUM IN TELEVISION/VIDEO V	This course offers supervised campus experience in video/television broadcasting with emphasis in the planning, production and editing of electronic media, announcements and programs. Each semester this sequence of classes will focus on different aspects of the subject	10	12
2019-2020	936228	INTERNSHIP IN RADIO OR TELEVISION BROADCASTING	This course offers supervised field experience in radio or television broadcasting or related areas.	10	12
2019-2020	936401	SALON MANAGEMENT TECHNOLOGY	This course is designed to develop entry-level management skills for the beauty industry. Topics include job-seeking, leader and entrepreneurship development, business principles, business laws, insurance, marketing, and technology issues in the workplace. Upon completion, the student should be able to list job-seeking and management skills and the technology that is available for use in the salon.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936402	ENTREPRENEURSHIP FOR SALON/SPA	This course covers the important issues and critical steps involved in starting a new business from scratch. Topics covered include developing a business plan, creating a successful marketing strategy, setting up the legal basis for business, raising start-up funds, attracting and managing human resources, managing costs, and developing a custom base.	10	12
2019-2020	936601	FUNDAMENTALS OF SMALL ENGINE REPAIR	This course introduces students to the theory and operating principles of internal combustion engines. Emphasis is placed on basic engine systems, special tools and testing equipment, shop safety rules and equipment. Upon completion, students should understand shop rules and be able to identify engine components, identify special tools and demonstrate their use, discuss the process of internal combustion; identify shop safety rules, list engine components and explain their function.	10	12
2019-2020	936602	FOUR-STROKE CYCLE ENGINE	This course covers the service and repair of the four-stroke cycle engines. Emphasis is placed on the function and operating principles of the fuel systems, ignition, starters, exhaust, and lubrication systems. Upon completion, students should understand service and repair procedures for all related engine systems.	10	12
2019-2020	936603	FOUR-STROKE CYCLE ENGINE LAB	☐ This course provides students hands-on experience with engine repair and engine troubleshooting techniques. Emphasis is placed on the cylinder block and all internal components, fuel systems, ignition systems, cooling systems, lubrication and exhaust systems. Upon completion, students should be able to apply small engine service and repair procedures.	10	12
2019-2020	936604	SPECIAL PROJECTS IN SMALL ENGINE REPAIR	This course is designed to augment the required curriculum while meeting the individual needs of the student. Emphasis is placed on hands-on training to further develop the student's mechanical and diagnostic skills. Upon completion, students should be able to diagnose and repair engines of various designs currently in production.	10	12
2019-2020	936605	BASIC SMALL ENGINE ELECTRICAL SYSTEMS	This course is designed to teach basic small engine electrical system troubleshooting and repair skills. Emphasis will be placed on reading schematics, using electrical test equipment, and removal and replacement of electrical wiring and components. Topics will include charging, starting, and magneto systems. Upon completion students should be able to test and maintain various small engine electrical systems.	10	12
2019-2020	936606	TWO-STROKE CYCLE ENGINE	This course covers the service and repair procedures for the two stroke cycle engine. Emphasis is placed on engine construction, induction systems, carburetion and exhaust systems. Upon completion, students should be able to repair and maintain two-stroke engines.	10	12
2019-2020	936607	ENGINE RECONDITIONING	This course provides the student with the knowledge and techniques involved in the reconditioning of small gasoline engines. Emphasis is placed on valve service, cylinder reboring, bearings and precision measuring tools. Upon completion, students should be able to use inside and outside micrometers, reface valves and valve seats, resize cylinder bores and replace various types of bearings.	10	12
2019-2020	936608	ENGINE RECONDITIONING LAB	This course provides practical experience in troubleshooting and complete reconditioning of small gasoline engines. Emphasis is placed on the correct measuring of crankshafts, connecting rods, pistons, valves and various other engine components. Upon completion, students should be able to resize cylinder bores, perform valve service, replace pistons and rings, time camshafts, set and adjust all components to specifications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936609	SPECIAL PROJECTS IN LAWN, GARDEN AND INDUSTRIAL ENGINES	<p>☐ This special projects course is designed to augment the required curriculum while meeting the individual needs of the student. Emphasis is placed on hands-on training to further develop the student's mechanical and diagnostic skills. Upon completion, students should be able to diagnose and repair various lawn and garden, and industrial equipment. ☐</p>	10	12
2019-2020	936610	SPECIAL TOPICS IN SMALL ENGINE ELECTRICAL SYSTEMS	<p>This special projects course is designed to augment the required curriculum while meeting the individual needs of the student. Emphasis is placed on hands-on training to further develop the student's electrical diagnostic and repair skills. Upon completion, students should be able to diagnose and repair electrical systems on various small engine systems.</p>	10	12
2019-2020	936611	LAWN & GARDEN EQUIPMENT FUNDAMENTALS	<p>This course covers riding mowers, weed eaters, tillers, edgers, chainsaws and generators. Emphasis is placed on mechanical and electrical systems. Upon completion, students should be able to service and repair mechanical and electrical components of lawn and garden equipment.</p>	10	12
2019-2020	936612	LAWN & GARDEN EQUIPMENT LAB	<p>This course covers riding mowers, string trimmers, tillers, edgers, chainsaws and generators. Emphasis is placed on mechanical and electrical systems. Upon completion, students should be able to service and repair mechanical and electrical components of lawn and garden equipment.</p>	10	12
2019-2020	936613	CHAINSAWS & STRING TRIMMERS	<p>☐ This course is designed to instruct students in the diagnosing and repairing of problems unique to chainsaws and string trimmers. Emphasis is placed on the fuel systems, lubrication systems, drive systems, clutches, right angle drives and cutting chains. Upon completion, students should be able to service and repair chainsaws and string trimmers.</p>	10	12
2019-2020	936614	SMALL DIESEL ENGINES	<p>This course covers the operating principles and repair of small diesel engines utilized by the Lawn and Garden Industry. Emphasis is placed on engine construction and fuel systems. Upon completion, students should be capable of minor repairs to the fuel systems and engines.</p>	10	12
2019-2020	936801	Beginning Keyboarding	<p>This course is designed to enable the student to use the touch method of keyboarding. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information using the typewriter or microcomputer keyboard. Upon completion, the student should be able to demonstrate proper technique and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of basic business documents such as memos, letters, reports, and tables.</p>	10	12
2019-2020	936802	INTERMEDIATE KEYBOARDING	<p>This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and lab exercises. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines from unarranged rough draft to acceptable format. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of business documents.</p>	10	12
2019-2020	936803	Advanced Keyboarding	<p>This course is designed to assist the student in continuing to develop speed and accuracy using the touch method of keyboarding. Emphasis is on the production of business documents using decision-making skills. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy in the production of business documents.</p>	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936804	COMPUTER NAVIGATION	This course is designed to introduce the student to the MS Windows® environment through classroom instruction. Emphasis is on Windows as a graphical user interface and includes operations and applications that use the windows environment. Upon completion, the student should be able to demonstrate proficiency in the operation and management of hardware and software as defined by the course syllabus.	10	12
2019-2020	936805	BASIC WORD PROCESSING	This course is designed to provide the student with basic word processing skills through classroom instruction and outside lab. Emphasis is on the utilization of software features to create, edit, and print common office documents. Upon completion, the student should be able to demonstrate the ability to use industry-standard software to generate appropriately formatted, accurate, and attractive business documents such as memoranda, letters, and reports.	10	12
2019-2020	936806	ADVANCED WORD PROCESSING	This course is designed to increase student proficiency in using advanced word processing functions. Emphasis is on the use of industry-standard software to maximize productivity. Upon completion, the student should be able to demonstrate the ability to generate complex documents such as forms, newsletters, and multi-page documents.	10	12
2019-2020	936807	BUSINESS LAW	This course introduces the student to the fundamentals of business law affecting consumers and citizens. Emphasis is on contracts, sales, and commercial papers. Upon completion, the student should be able to demonstrate an understanding of legal issues affecting business transactions.	10	12
2019-2020	936808	ELECTRONIC CALCULATIONS	This course is designed to give students a job-level competency in using the ten-key touch method and develop the student's ability to solve common business problems with an electronic display-printing calculator. Emphasis is placed on basic mathematical functions in a business context. Upon completion students will be able to perform basic electronic calculating at an acceptable rate of speed and accuracy.	10	12
2019-2020	936809	BUSINESS COMMUNICATIONS	This course is designed to provide the student with skills necessary to communicate effectively. Emphasis is on the application of communication principles to produce clear, correct, logically-organized business communications. Upon completion, the student should be able to demonstrate effective communication techniques in written, oral, and nonverbal communications.	10	12
2019-2020	936810	CAREER AND PROFESSIONAL DEVELOPMENT	This course is designed to assist the student in preparing for employment. Emphasis is on developing resumes, improving interview techniques participating in mock interviews, setting goals, conducting job searches and improving personal and professional image. Upon completion, the student will be able to demonstrate confidence in seeking employment.	10	12
2019-2020	936811	FINANCIAL RECORD KEEPING	This course is designed to provide the student with an understanding of the accounting concepts, principles, and terminology. Emphasis is on the accounting cycle and equation as they relate to different types of business ownership. Upon completion, the student should be able to demonstrate accounting procedures used in a proprietorship, partnership, and corporation.	10	12
2019-2020	936812	ADVANCED FINANCIAL RECORDKEEPING	This course focuses on in-depth principles and practices of the accounting cycle. Emphasis is on the preparation of financial records such as payroll records, vouchers, accruals and deferrals, and related documents. Upon completion, the student should be able to prepare and manage financial records and information.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936813	COMPUTERIZED FINANCIAL RECORD KEEPING	This course is designed to provide the student with skill in using the microcomputer to enter financial data through classroom instruction and outside lab. Emphasis is on the use of appropriate software in the preparation of journals, financial statements, and selected payroll records. Upon completion, the student will be able to demonstrate the ability to use a microcomputer system to record financial data.	10	12
2019-2020	936814	RECORDS AND INFORMATION MANAGEMENT	This course is designed to give the student knowledge about managing office records and information. Emphasis is on basic filing procedures, methods, systems, supplies, equipment, and modern technology used in the creation, protection, and disposition of records stored in a variety of forms. Upon completion, the student should be able to perform basic filing procedures.	10	12
2019-2020	936815	OFFICE PRACTICUM	This course is designed to provide the student with an opportunity to develop skill in a simulated office environment. Emphasis is on the integration of classroom learning with practical experiences that relate meaningfully to office careers. Upon completion, students should be able to demonstrate the ability to apply knowledge and skills gained in the classroom to the office environment.	10	12
2019-2020	936816	MACHINE TRANSCRIPTION	This course is designed to develop student's skills in transcribing various forms of dictated material. Emphasis is on the use of microcomputers and a commercial word processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings.	10	12
2019-2020	936817	LEGAL TERMINOLOGY	This course is designed to familiarize the student with common legal terms. Emphasis is on the word root building system combining Greek and Latin prefixes, suffixes, word roots, and forms that make medical terms easy to use. Upon completion, the student should be able to understand and use medical legal terminology.	10	12
2019-2020	936818	LEGAL OFFICE PROCEDURES	This course focuses on the responsibilities of professional support personnel in a legal environment. Emphasis is on legal terminology, the production of appropriate forms and reports, and office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a legal environment.	10	12
2019-2020	936819	MEDICAL TERMINOLOGY	This course is designed to familiarize the student with medical terminology. Emphasis is on the spelling, definition, pronunciation, and usage of medical terms. Upon completion, the student should be able to communicate effectively using medical terminology.	10	12
2019-2020	936820	MEDICAL OFFICE PROCEDURES	This course focuses on the responsibilities of professional support personnel in a medical environment. Emphasis is on medical terms, the production of appropriate forms and reports, and office procedures and practices. Upon completion, the student should be able to perform office support tasks required for employment in a medical environment.	10	12
2019-2020	936821	HEALTH INFORMATION MANAGEMENT.	This course focuses on the structure, analysis and management of medical records. Emphasis is on filing and managing medical records; coding of diseases, operations and procedures; and the legal aspects of medical records. Upon completion, the student should be able to maintain medical records.	10	12
2019-2020	936822	OFFICE MANAGEMENT	This course is designed to develop skills necessary for supervising office functions. Emphasis is on achieving the goals of business in a culturally diverse workplace, office organization, teamwork, workplace ethics, office politics, and conflict-resolution. Upon completion, the student should be able to demonstrate skills needed to effectively supervise people and technology in the modern office.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936823	OFFICE PROCEDURES	This course is designed to develop an awareness of the responsibilities and opportunities of the office professional. Emphasis is on current operating functions, practices and procedures, work habits, attitudes, oral and written communications, and professionalism. Upon completion, the student should be able to demonstrate the ability to effectively function in an office support role.	10	12
2019-2020	936824	COMPUTERIZED DESKTOP PUBLISHING	This course is designed to introduce the student to the elements and techniques of page design, layout, and typography through classroom instruction and lab exercises. Emphasis is on the use of current commercial desktop publishing software, graphic tools, and electronic input/output devices to design and print high-quality publications such as newsletters, brochures, catalogs, forms, and flyers. Upon completion, the student should be able to utilize proper layout and design concepts in the production of attractive desktop published documents.	10	12
2019-2020	936825	OFFICE APPLICATIONS	This course is designed to provide the student with a foundation in the use of computerized equipment and application software as tools in the performance of a variety of office tasks. Emphasis is on the role of the office professional in the selection and application of appropriate technology to the specific task or combination of tasks. Upon completion, the student should be able to demonstrate proficiency in the selection of appropriate computerized tools to complete designated tasks.	10	12
2019-2020	936826	THE COMPUTERIZED OFFICE	This course is designed to enable the student to develop skill in the use of integrated software through classroom instruction and lab exercises. Emphasis is on the use of computerized equipment, software, and communications technology. Upon completion, the student should be able to satisfactorily perform a variety of office tasks using current technology.	10	12
2019-2020	936827	CPS/CAP REVIEW	This course, Certified Professional Secretary/Certified Administrative Professional Review, is designed to provide skills and knowledge in office administration, office systems and technology, and management. Emphasis is on the knowledge and skills required of those who qualify as professional administrative support. Upon completion, the student should be able to demonstrate knowledge and successful performance of skills in a variety of business-related subjects.	10	12
2019-2020	936828	SPREADSHEET APPLICATIONS	This course provides the student with skills needed in performing spreadsheet tasks. Emphasis is on spreadsheet terminology and design, common formulas, and proper file and disk management procedures. Upon completion, the student should be able to design, format, and graph effective spreadsheets.	10	12
2019-2020	936829	DATABASE CONCEPTS	This course is designed to provide the student with an understanding of the concepts of database management through classroom instruction and lab exercises. Emphasis is on the use of database software for business applications. Upon completion, the student should be able to create and manipulate data files and format output such as documents and reports.	10	12
2019-2020	936830	DATA ENTRY	This course focuses on the use of computerized equipment and software in performing data-entry tasks. Emphasis is on the basic features of data-entry software, terminology, and proper file and disk management procedures. Upon completion, the student should be able to perform data-entry applications.	10	12
2019-2020	936831	OFFICE GRAPHICS AND PRESENTATIONS	This course focuses on producing business slides and presentations. Emphasis is on software tools, presentation options, design, and presentation considerations. Upon completion, the student should be able to design and produce a business presentation.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	936833	OFFICE INTERNSHIP COOP	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	937001	SIMULATOR SYSTEM FUNDAMENTALS	This course introduces students to fundamentals of flight simulator systems. Topics included are the theory, overview of simulator systems, and basic flight simulator operations. Upon completion, students will be familiar with basic flight simulator systems and operation. NOTE: Completion of this course does not qualify for flight training ground school or other types of flight training.	10	12
2019-2020	937002	SIMULATOR SYSTEM TESTING	This course provides an introduction to testing procedures and equipment for flight simulator systems. Topics included system components and their interface with computers, testing equipment setup and operation, documentation and quality control. Upon completion, students will be able to identify the normal and abnormal operation of the various simulator system components and document findings.	10	12
2019-2020	937003	SIMULATOR SYSTEM TROUBLESHOOTING	This course provides an introduction to simulation troubleshooting procedures. Upon completion, students will be able to use troubleshooting techniques and relevant documentation to perform diagnostic testing, replacement, and repair of failed components. Safety is emphasized throughout this course.	10	12
2019-2020	937004	ADVANCED SIMULATOR SYSTEMS TROUBLESHOOTING	This is a continuation of SIM 103, Simulator Systems Troubleshooting. This class provides opportunities to practice advanced simulation troubleshooting procedures. Additional information is provided for advances and future flight simulation technology. Upon completion, students will be able to use advanced troubleshooting techniques and relevant documentation to perform diagnostic testing, replacement, and repair of failed components. Safety is emphasized throughout this course.	10	12
2019-2020	937201	PESTICIDES	This course is a study of chemicals commonly used to assist in the management of pest problems on crops, ornamental plants, and turf areas. Topics include selection of pesticide, storage of chemicals, state test and license, mixing of chemicals, and calibration of equipment. Upon course completion, students will be able to select and safely apply pesticides.	10	12
2019-2020	937202	GOLF COURSE MANAGEMENT	This course covers turfgrass types, mowing techniques, sodding, seeding, irrigation systems, and pest control pertinent to golf courses. Topics include fairway and green maintenance, equipment use, purchase, leasing, and maintenance. The student will learn to develop an annual calendar for scheduling the major phases of golf course management.	10	12
2019-2020	937203	NURSERY PRODUCTION	This course focuses on all aspects of producing plants in a nursery. Topics include soil and other media for plant growth, container selection, plant propagation, watering and fertilization, pest control, and production practices commonly used by commercial growers. Upon course completion, students will be able to demonstrate proficiency in all phases of nursery plant productions.	10	12
2019-2020	937401	BASIC VEHICLE OPERATION	This course introduces students the fundamentals of becoming a professional commercial motor vehicle driver. Topics include orientation, control systems, vehicle inspections and reporting, basic control, shifting, backing, coupling and uncoupling, proficiency development, and special rigs. Upon completion, the student should demonstrate proficiency in skill field tasks and pre-trip inspections to Commercial Driver License standards. Students must obtain a Commercial Learner Driver License before being allowed to operate a vehicle. Contact the instructor for requirements for obtaining this license.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	937402	SAFE OPERATING PRACTICES	This course offers proper defensive driving techniques applicable to the commercial motor vehicle driver and involves the interaction between the student/vehicle and the highway traffic environment. Topics include visual search, communication, speed and space management, night operation, extreme driving conditions, and proficiency development. Upon completion, the student should demonstrate basic operating skills that ensure safety of the driver and other vehicle operators to Commercial Drivers License standards.	10	12
2019-2020	937403	NONVEHICLE ACTIVITIES	This course focuses on activities not directly related to the vehicle itself, but that are related to the potential job performance of the commercial motor vehicle driver. Topics include handling cargo, cargo documentation, hours of service requirements, accident procedures, personal health and safety, trip planning, employability skills, and public and employer relations. Upon completion, the student will demonstrate performance of these activities to Commercial Drivers License standards to ensure safety to the driver, vehicle, cargo, and other motorists.	10	12
2019-2020	937404	VEHICLE MAINTENANCE	This course introduces students to the various components of the vehicle and how they work in order that malfunctions and safety hazards may be recognized before serious damages or accidents occur. Topics include vehicle systems, preventive maintenance and servicing, and diagnosing and reporting malfunctions. Upon completion, the student should be able to perform routine service functions and simple maintenance tasks and recognize when a vehicle needs repairs.	10	12
2019-2020	937405	ADVANCED OPERATING PRACTICES	This course is designed for extended high level skills training for coping with hazards of the roadway-traffic environment. Topics include hazard perception, emergency maneuvers, and skid control and recovery. Upon completion the student should demonstrate perceptual skills for recognition of potential hazards as well as the manipulative skills needed to handle the vehicle in an emergency.	10	12
2019-2020	937406	PROFICIENCY DEVELOPMENT	This course provides an opportunity to refine and polish, within the highway traffic environment, vehicle handling skills, and the safe and fuel efficient operating practices. Student performance IS closely monitored by instructors to ensure that student progress toward the level of proficiency required for attainment of the Commercial Drivers License.	10	12
2019-2020	937407	COMMERCIAL DRIVERS LICENSE	This course is a review of information and requirements for obtaining a Commercial Drivers License (CDL). Upon completion, the student should demonstrate preparedness for passing the Commercial Drivers License examination with CDL endorsements.	10	12
2019-2020	937601	HISTORY OF TRANSPORTATION	This course is a study of transportation regulation, promotions, management problems, and policy issues. Emphasis is on regulatory agencies and their effects on the transportation system. Upon course completion, students should understand the implications of a regulated transportation system versus a deregulated system.	10	12
2019-2020	937602	REGULATION OF TRANSPORTATION	This course is a study of transportation regulation, promotions, management problems, and policy issues. Emphasis is on regulatory agencies and their effects on the transportation system. Upon course completion, students should understand the implications of a regulated transportation system versus a deregulated system.	10	12
2019-2020	937603	INDUSTRIAL TRAFFIC MANAGEMENT	This course is a study of the major functions and knowledge needed to organize and operate an industrial traffic department. Topics include management of the distribution function including mode, carrier selection, and development of rates. Upon course completion, students should be able to apply traffic management principles to operations of an industrial traffic department.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	937604	TRANSPORTATION AND DISTRIBUTION LOGISTICS	This is a study of the management of resources and their utilization during all phases of the life cycle of a product. Topics include transportation, distribution and warehousing inter-relations with production, inventories, and marketing. Upon course completion, students should be able to identify and resolve problems related to storing and distribution products.	10	12
2019-2020	937605	TRAFFIC AND TRANSPORTATION WORKSHOP	This workshop includes presentations of current topics of interest to those employed or desiring to be employed in the traffic and transportation industry. Upon course completion, students should be able to apply current technology and practices relevant to the transportation industry.	10	12
2019-2020	937606	TRACKING SYSTEMS	This course is a study of tracking systems in the traffic and transportation industry. Emphasis is on the operational characteristics of various tracking systems. Upon course completion, students should be able to identify the advantages and disadvantages of different tracking systems.	10	12
2019-2020	937607	FREIGHT LOSS AND DAMAGE CLAIMS	This course is a study of the law, regulations, rulings and procedures for handling freight loss and damage claims. Topics include transportation contracts, common carrier's liability, measure of damages, and procedures for filing claims. Upon course completion, students should be able to determine freight losses, minimize liability risks for losses and complete appropriate claim procedures.	10	12
2019-2020	937608	IMPORT/EXPORT TRANSPORTATION MANAGEMENT	This course is an introduction to the modes of import/export transportation. Topics include the different kinds of carriers, rates, regulations, freight forwarders, customs brokers, and trends of import/export trade that affect transportation. Upon course completion, students should be able to select the most appropriate modes of transportation for various products and should understand the implications of trends and regulations on the import/export business.	10	12
2019-2020	937609	TRANSPORTATION OF HAZARDOUS MATERIALS	This course is an introduction to transporting hazardous materials. Topics include the classifying, packaging, labeling, marking regulations, and handling of hazardous materials in transportation. Upon course completion, students should be able to implement procedures for transporting various hazardous materials.	10	12
2019-2020	937610	DIRECTED STUDIES IN TRAFFIC AND TRANSPORTATION	This course is designed for independent study in specific areas of the traffic and transportation industry. The project is chosen by the student in consultation with a faculty member and is carried out under faculty supervision.	10	12
2019-2020	937801	UPHOLSTERY FUNDAMENTALS & DESIGN	This course is designed to introduce the student to a working knowledge of upholstery techniques and hands-on experience using the fundamentals of Upholstery/Design. Emphasis is placed on safety, upholstery terminology, housekeeping, tools, equipment, minor sewing machine repair, a brief history of furniture styles, color, fabrics, woods, and an introduction to principles and elements of furniture/automotive design. Upon completion, the student should be able to cite the principles and elements of design and apply upholstery techniques in all areas specified to complete requirements of this course.	10	12
2019-2020	937802	UPHOLSTERY DESIGN FURNITURE LAB	This course is designed to teach the student specific techniques and applications in furniture design foundations. Emphasis is placed on proper use, care, storage, and maintenance of tools and equipment and proper application of design techniques working with the function, beauty and individuality of a good design plan or foundation. Upon completion, students should be able to identify tools and equipment and apply foundation techniques including tying springs, applying stuffing and padding, and using a variety of materials to achieve a good design plan.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	937803	UPHOLSTERY DESIGN AUTO LAB	This course provides an introduction to automotive techniques and design with application or live work projects. Emphasis is placed on the application of design techniques including working with springs, door panels, headliners, auto seating, package shelves, carpet, windlace, arm rests, and dashboards. Upon completion, students should be able to perform design and hands-on upholstery techniques to automotive upholstery.	10	12
2019-2020	937804	UPHOLSTERY DESIGN EXPERIMENTAL LAB	This course is an experimental lab in Upholstery/Design. It consists of demonstrations by the instructor and experimentation by students. Upon completion, students should be able to demonstrate, with appropriate safety precautions, the basic principles of Upholstery/Design.	10	12
2019-2020	937805	CORRELATING DECORATIVE ELEMENTS	This course is designed to effectively bring together the elements and principles of design while allowing the student to specialize in automotive or furniture techniques including job planning and decorative elements. This course covers job planning, layouts, correlation of decorative elements including simple floor plans and color schemes, and design factors such as diamonds, channeling, and decorative trims. Upon completion, students should be able to plan layouts, identify and apply the principles and elements of design, and select decorative trims that blend with the decor.	10	12
2019-2020	937806	DECORATIVE ELEMENTS FURNITURE LAB	This course is designed to teach the student to use a layout in computing yardage and to plan decorative techniques to be used with furniture projects. Topics include layouts, planning, redesigning, using decorative trims, yardage charts and accessories necessary to achieve a harmonious design. Upon completion, students should be able to execute plans, compute yardage, redesign furniture, and select decorative techniques and accessories to complete a design.	10	12
2019-2020	937807	DECORATIVE ELEMENTS AUTO LAB	This course is designed for instruction in using a layout to compute yardage and in planning decorative techniques which include windlace, hidem welt, various trims and finishing techniques. Upon completion, the student should be able to compute yardage from a well-planned layout and apply decorative techniques to the finished automotive upholstery project.	10	12
2019-2020	937808	DECORATIVE ELEMENTS EXP LAB	This course is an experimental lab in Decorative Elements. It consists of demonstrations by the instructor and experimentation by students. Upon completion, students should be able to demonstrate the basic principles of planning, measurement, and the use of appropriate decorative techniques.	10	12
2019-2020	937809	WOOD REPAIR AND REFINISHING	This course provides the students with skills necessary to repair or refinish antique woods, repair scars or scratches, and touch-up existing finishes. Topics covered in this course include tools, supplies, repairs, stains, sanding, refinishing products, and special techniques to restore a finish. Upon completion, students should be able to restore woods, replace broken parts, and refinish wood.	10	12
2019-2020	937810	HISTORY OF FURNITURE STYLES	This course is designed to teach the student to identify period furniture and some of the basics of styles using the vocabulary of furniture description. Topics include history of furniture, furniture facts, period furniture, furniture identification, and important trends, fabrics, motifs, woods, finishes, and styles. Upon completion, students should be able to identify furniture styles, periods, motifs, woods and finishes, and coordinate styles.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	937811	DESIGN INTERIORS FURNITURE AND AUTO	This course is designed for instruction in planning interiors that satisfy individual needs in furniture or automobiles using the elements and principles of design. Emphasis is placed on blending styles, specifying interior materials, correlating a color scheme, placing furniture in a room, placing seats in a car or resort vehicle as well as vans and boats. Upon completion, the student will be able to work with a customer on appropriate color schemes, materials, and designs which are appropriate for the life styles or needs of the family.	10	12
2019-2020	937812	DESIGN INTERIORS FURNITURE LAB	This course is designed for instruction in applying the principles and elements of design when upholstering furniture and to create a unified design. Emphasis is placed on the use of appropriate fabrics, colors, textures, types of furniture, needs of customers, lifestyles, occupation, commercial or residential setting. Upon completion, a student should be able to identify elements of design and apply them to the principles of design in order to achieve a unified design which best suits the decor.	10	12
2019-2020	937813	DESIGN INTERIORS AUTO LAB	This course is designed to instruct the student to apply the principles and elements of design when upholstering automobiles and to create a unified design. Emphasis is placed on the use of appropriate fabrics, colors, textures, types of automobiles, needs of customers, and purpose for which the vehicle is being upholstered. Upon completion, a student should be able to identify elements of design and apply them to the principles of design in order to achieve a unified design which best suits the automobile decor.	10	12
2019-2020	937814	DESIGN INTERIORS EXP LAB	This course is an experimental lab in Design Interiors. It consists of demonstrations by the instructor and experimentation by students. Upon completion, students should be able to demonstrate their knowledge of materials and other elements of design.	10	12
2019-2020	937815	SHOP MANAGEMENT & LAYOUT	This course is designed to provide the student with necessary information to operate and manage an upholstery business. Emphasis is placed on shop layouts, necessary equipment, supplies, tax information, setting up an accounting system, and managing workloads and inventory control in a simulated working atmosphere. Upon completion, a student should be able to layout, perform stock set-up, and manage an upholstery business.	10	12
2019-2020	937816	DRAPERIES, CORNICES, BEDDING	This course provides the student with basic techniques in designing draperies, cornices, and bedding. Emphasis is placed on designing headboards, comforters, pillow shams, dust ruffles, cornices, pinch pleats, rod pockets, drapery and various shades. Upon completion, the students should be able to design functional draperies, cornices, and bedding accessories to contribute an aesthetic quality to the decor.	10	12
2019-2020	937817	UPHOLSTERY CRAFTS & ACCESSORIES	This course is designed to teach the student to construct the most up-to-date crafts/accessories in upholstery. Emphasis is placed on creating patterns, designing crafts, using various fabrics, and identifying a list of new crafts using upholstery materials. Upon completion, students should be able to design upholstery crafts/accessories, create patterns, and use various fabrics.	10	12
2019-2020	937818	EMBROIDERY DESIGN	This course is designed to introduce students to basic techniques of machine embroidery using an embroidery machine, computer, and embroidery software. Upon completion of the course, the student should be able to use embroidery software and an embroidery machine to design projects for various mediums.	10	12
2019-2020	937819	AUTOMOTIVE UPHOLSTERY & DESIGN	This course is designed to introduce the student to several different types of automobile interior designs. Topics covered include fabric, vinyl and leather seat inserts, sheared and loop carpet, headliners, and interior panels. Upon completion, students should be able to select suitable materials and complete an automotive upholstery project using a style of their choice.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	937820	INTERIOR MATERIALS-FURNITURE	This course is designed to teach the student to choose the most appropriate interior materials to be used on and with furniture. Emphasis is placed on wall paper, paint, upholstery fabrics, drapery fabrics, carpet, paneling, floor coverings, and window treatments. Upon completion, students should be able to utilize interior materials and to advise customers in planning decor.	10	12
2019-2020	937821	INTERIOR MATERIALS-AUTO	This course is designed to teach the student to use interior materials available in the ever-changing industry of automotive upholstery. Emphasis is placed on design, color, pattern, texture, type of vehicle, and durability of fabric to be used in customizing or restoring a vehicle to its original status. Upon completion, students should be able to select materials, match colors, choose suitable patterns, search for new materials, repair damaged materials, and contour new designs.	10	12
2019-2020	937822	AUTO UPHOLSTERY DESIGN EXPERIMENTAL LAB	This course is an experimental lab in Automotive Upholstery/Design. It consists of demonstrations by the instructor and experimentation by students. Upon completion, students should be able to apply appropriate techniques in Automotive Upholstery/Design.	10	12
2019-2020	937823	ADVANCED FURNITURE TECHNIQUES	This course is designed for instruction in advanced techniques of furniture coverings and designs. Emphasis is placed on advanced cushion making, diamond tufting, redesigning furniture frames, redesigning coverings, advanced skirts, headboards, and other specific projects. Upon completion, students should be able to perform advanced skills necessary to complete furniture redesigns and coverings.	10	12
2019-2020	937824	ADVANCED AUTOMOTIVE TECHNIQUES	This course is designed to instruct the student in advanced automotive techniques necessary to perform skills to complete jobs. Emphasis is placed on tuck and roll, customization, convertible tops, and specialized techniques in boat seats, boat carpeting, tarps, and recreational vehicles. Upon completion, students should be able to apply advanced techniques and skills in any aspect of automotive upholstery.	10	12
2019-2020	937825	QUILTING TECHNIQUES AND DESIGN	This course is designed to introduce the student to basic techniques in quilt design. Emphasis is placed on selecting colors, fabrics, and patterns, piecing, marking appliqués, assembling quilt blocks, using a quilting machine, and using quilting techniques as applied to upholstery. Upon completion, the student should be able to select colors and fabrics, assemble quilt pieces in a design, use appliqués, and use basic techniques of quilting in upholstery projects.	10	12
2019-2020	938001	GRAPHIC REPRODUCTION PROCESSES	This course introduces students to the current hardware, software, materials, and processes used to prepare and reproduce material for print media. Upon completion, students should be able to recognize, evaluate, and produce materials and specifications for diverse print reproduction processes.	10	12
2019-2020	938002	INTRODUCTION TO DIGITAL PHOTOGRAPHY	This course is an introduction to digital photography. Emphasis is placed on aesthetic as well as technical aspects of photography. Upon completion, the student should understand quality in photography and be able to apply the techniques necessary to produce professional photographs.	10	12
2019-2020	938003	DIGITAL PHOTOGRAPHY	This course explores various uses of digital photography. Subjects may include studio, portrait, landscape and other areas of photography. Upon completion, the student should be able to apply the techniques necessary to produce professional photographs of a variety of subjects.	10	12
2019-2020	938004	TYPOGRAPHY	This course is an introduction in using type in graphic design. Emphasis is on typographic techniques used in layout and graphic design. Upon completion, the student should be able to use type as a design element.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938005	GRAPHICS SOFTWARE APPLICATIONS	This course is an introduction to graphics software applications. Students are given a basic overview of the software as applied to specific production problems. Upon completion, the student should be able to produce basic graphics using applicable software.	10	12
2019-2020	938006	DIGITAL ILLUSTRATION I	Principles of creating and manipulating vector illustrations using current vector illustration software. Upon completion, the student should be able to produce professional vector illustrations from concept to production for diverse media.	10	12
2019-2020	938007	INTRODUCTION TO GRAPHIC DESIGN	This course is an introduction to the various elements of graphic design. Emphasis is on aspects of production design including layout, typography, graphic photography, computer graphics and printing techniques. Upon completion, students should have a basic understanding of the graphic process from concept through production.	10	12
2019-2020	938008	DIGITAL IMAGING I	This course covers principles of creating and manipulating raster images using current raster imaging software. Upon completion, the student should be able to produce professional raster images from concept to production for diverse media.	10	12
2019-2020	938009	DIGITAL IMAGING II	This course is a continuation of raster imaging techniques involving more complex imaging problems using current raster imaging software. Upon completion, the student should be able to produce complex professional raster images from concept to production for diverse media.	10	12
2019-2020	938010	DIGITAL PUBLISHING I	Principles of page layout and use of current page-layout publishing software. Students will learn to manipulate type and other graphics in the context of page-layout applications. Projects for page layouts will emphasize total execution from concept to production.	10	12
2019-2020	938011	ADVANCED COMPUTER GRAPHICS	This course is designed to acquaint the student with computer graphics. Topics include illustration and image manipulation. Upon completion, students should be able to apply design principles to computer graphics.	10	12
2019-2020	938012	INTRODUCTION TO TECHNICAL ILLUSTRATION	This course focuses on technical drawings prepared for industry. Topics include perspective and axonometric drawing. Upon completion, students should be able to apply basic drawing and design principles to technical drawings.	10	12
2019-2020	938013	TECHNICAL ILLUSTRATION	This course focuses on renderings prepared for industry. Various techniques are used to illustrate charts, graphs, perspective and axonometric drawings and enhanced assembly views. Upon completion, students should be able to apply design principles to technical drawings.	10	12
2019-2020	938014	GRAPHIC DESIGN BASICS	This course focuses on the basic principles of graphic design. Emphasis is on design, layout, and production. Upon completion, students should be able to prepare artwork for printing.	10	12
2019-2020	938015	GRAPHIC DESIGN	This course focuses on graphic design. Emphasis is on the creative production process. Upon completion, students should be able to produce high quality graphic designs.	10	12
2019-2020	938016	ADVANCED GRAPHIC DESIGN	This course focuses on graphic communications. Emphasis is on application of design principles to projects involving such skills as illustration, layout, typography, computer graphics, and production technology. Upon completion, students should be able to apply graphic design principles and production skills.	10	12
2019-2020	938017	SUPERVISED STUDY IN GRAPHICS	This course is designed to enable the student to continue studying computer graphics in greater depth. Areas of study are chosen by the student with the approval of the instructor. This course will result in a better understanding of various aspects of computer graphics.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938018	DIGITAL DESIGN	This course focuses on products for digital media. Emphasis is on creativity, and an understanding of software and production. Upon course completion, students should be able to apply creative design and production skills to finished projects.	10	12
2019-2020	938019	ADVANCED DIGITAL DESIGN	This course focuses on advanced applications in the production of digital design. Emphasis in on computer skills, creativity and design. Upon course completion, students should be able to create a multimedia production.	10	12
2019-2020	938020	MULTIMEDIA PRODUCTION	This course introduces students to multimedia production. Emphasis is on production design, creativity, visual design, and technical skills. Upon course completion, students should be able to create a multimedia production.	10	12
2019-2020	938021	ADVANCED MULTIMEDIA PRODUCTION	This course focuses on advanced multimedia production. Emphasis is on comprehensive interactive multimedia production. Upon course completion, students should be able to apply creative design and production skills to finished interactive projects	10	12
2019-2020	938022	PORTFOLIO	This course assists students in the preparation of a resume and portfolio, and presentation to a prospective employer. The portfolio is developed with faculty consultation and reflects the student's ability to produce professional designs and graphics.	10	12
2019-2020	938023	COOPERATIVE WORK EXPERIENCE IN VISUAL COMMUNICATIONS	This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.	10	12
2019-2020	938201	ELECTRICAL FUNDAMENTALS	This course introduces the principles of basic Electrical / Electronic concepts and fundamentals. Topics include basic DC theory, types of diagnostic equipment, circuit protection, wire repair, use of wiring diagrams, airbag modules, and impact sensors. Upon completion, students should be able to identify components, test systems, and repair minor electrical problems according to manufacturer's literature.	10	12
2019-2020	938202	BRAKING SYSTEMS	This course covers the theory and repair of braking systems and various other mechanical repairs. Emphasis is placed on the practical application of brakes. Upon completion, students should be able to troubleshoot, adjust and repair braking systems.	10	12
2019-2020	938203	STEERING AND SUSPENSION	This course introduces students to the various types of suspension and steering systems. Emphasis is placed on the practical application of steering and suspension. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components.	10	12
2019-2020	938204	MOTOR VEHICLE AIR CONDITIONING	This course provides basic instruction in theory, operation, and repair of heating and air conditioning/refrigeration systems. Topics include operation theory, safety, maintenance, recycling and recovery procedures, recharging procedures, troubleshooting procedures, refrigerant leaks, and system repairs. Emphasis is placed on the understanding and repair of air conditioning and heating systems, including but not limited to air management, electrical and vacuum controls, refrigerant recovery, and component replacement.	10	12
2019-2020	938401	INTRODUCTION TO WATCH & JEWELRY	This course provides an introduction to the modern watch and jewelry industry. Topics include an overview and history of the industry, professional business practices, shop orientation, jewelry sales skills, proper use of tools, safety practices, and repair methods. Also included are diamond characteristics, their grading and history. Upon completion, students will be able to demonstrate a fundamental knowledge of basic jewelry and watch repair concepts.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938402	WATCH MOVEMENTS AND CASE PARTS	This course covers watch movements, case parts, and parts replacement. Included are the use of parts catalogs, ordering parts, the identification of various categories of movements through fingerprinting by individual companies, power cell replacement, and watch band adjusting. Upon completion, students will be able to identify, order, and replace stems, crowns, crystals, and back gaskets.	10	12
2019-2020	938403	ASSEMBLY AND DISASSEMBLY	This course includes all steps of the assembly and disassembly processes for various types of watch movements. Emphasis is placed on identification of watch repair tools, their usage, and hand dexterity and eye coordination. Upon completion, students will be able to assemble and disassemble all common types of mechanical watch movements.	10	12
2019-2020	938404	IDENTIFICATION OF PARTS & FUNCTIONS	This course covers nomenclature of watch movement parts and the function of each. Course content includes the examination and testing of individual parts as well as special parts variations. Upon completion, students will be knowledgeable of the function of all basic watch parts.	10	12
2019-2020	938405	CLEANING, LUBRICATING, AND TIMING	This course covers the methods of servicing watch movements by cleaning and lubricating. Course content includes various methods of servicing, the use of timing machines to accurately adjust the mean time rate, and methods of adjusting the balance assembly. Upon completion, students will be able to successfully service a mechanical watch movement with the use of electronic equipment.	10	12
2019-2020	938406	JEWELRY MANUFACTURING	This course covers basic jewelry manufacturing methods. Techniques such as torch soldering, filing, sawing, wire drawing, and the use of a metal rolling mill are covered, as well as machine engraving, jewelry refinishing, treatment of alloys with heat, precautions in gem stone handling, and the safe use of all tools and equipment. Upon completion, students will be able to safely and accurately perform basic jewelry manufacturing skills with a high level of finished product accuracy.	10	12
2019-2020	938407	JEWELRY REPAIR	This course is designed to teach basic consumer needed jewelry repairs. Course content includes such techniques as ring sizing, shank replacement, chain repair, prong tipping and replacement, methods of gold electroplating, tightening pre-set stones, soldering with the use of heat protective packing, and the ordering of findings and alloys. Upon completion, students will be able to make basic jewelry repairs.	10	12
2019-2020	938408	ROUND STONE SETTING	In this course students learn to mount four- and six-prong settings and their placement on jewelry. Students learn to set round stones in dome, cluster, strip, gypsy, tiffany, pave', channel, tube, bezel mountings and flush settings. Upon completion, students will be able to set round stones in various mountings.	10	12
2019-2020	938409	POLISHING AND FINISHING	This course instructs students in the use of basic compounds and techniques of fine jewelry polishing and finishing. Emphasis will be placed on the uses of various types of equipment. Upon completion students will be able to apply polishing and finishing techniques.	10	12
2019-2020	938410	ESCAPEMENTS	This course teaches students the nomenclature of escapement parts, operation, and repairs. Course content includes detailed procedures enabling the student to complete balance staff installation, poising, truing, and the replacement of pallet and roller jewels. Upon completion, students will be able to assemble and disassemble a watch escapement and will have acquired proficiency in replacing a balance staff and jewels.	10	12
2019-2020	938411	AUTOMATIC & CALENDAR MOVEMENTS	This course is designed to teach students the necessary steps involved in repairing and troubleshooting automatic and calendar watch movements. Emphasis is placed on obtaining speed and accuracy when servicing multifunctional watches with little instructor supervision. Upon completion, students will be able to successfully service multifunctional and complicated watch movements.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938412	COLLECTIBLES AND VALUATIONS	This course covers the identification of collectible time pieces, the history of American watch companies, and valuations. Included topics are estimating repairs, pocket watch and case servicing, antique wrist watch restoration, and dial repair, as well as emphasis on professional attitudes, customer relations, and good work habits. Upon completion, students will be able to identify collectible timepieces and their manufacturer, estimate repairs, and restore antique cases and movements.	10	12
2019-2020	938413	QUARTZ TIMEPIECES	This is a comprehensive course on quartz timepieces. Course content includes nomenclature of parts, cleaning, testing, disassembly and reassembly of both analog and digital quartz timepieces, quartz movement retro-fitting, and dial feet replacement, as well as proper and safe methods of handling parts and electronic components. Upon completion, students will be able to successfully repair both analog and digital quartz timepieces.	10	12
2019-2020	938414	FANCY STONE SETTING	In this course, students learn to set of fancy-shaped stones such as marquise, emerald, pear, and oval. Included is the hands-on placement of fancy crowns in shanks and mountings, as well as the use of findings catalogs to order crowns and stones. Upon completion, students will be able to set a variety of fancy-cut stones and solder their crowns to mountings.	10	12
2019-2020	938415	CUSTOM JEWELRY DESIGN	This course covers the art of custom designing jewelry through the ability to draw on paper what a customer wants in detail, then order or make the needed findings to make up a custom piece of jewelry. Special topics include crown placement, findings, mountings, and catalog knowledge, as well as an emphasis on customer communications, professional attitudes, and future employment. Upon completion, students will be able to re-design, custom design, and assemble jewelry by following the customer's work-order instructions.	10	12
2019-2020	938416	LOST WAX CASTING	This course covers the art and science of the lost wax casting process. Included are centrifugal and vacuum casting, wax model set-up, investing, the burn-out cycle, and professionally finished castings, as well as the safe use of the tools, equipment, and materials needed to alloy cast jewelry. Upon completion, students will be able to centrifugal and vacuum cast, and refinish castings to a fine finish.	10	12
2019-2020	938417	WAX CARVING	In this course, students learn all aspects of hand and machine wax carving. Course content includes custom design drawing, wax injecting, rubber mold vulcanizing, and mold cutting for reproduction; the proper and safe use of tools to attain close tolerances is required. Upon completion, students will be able to draw a customer's design, carve it in wax, and prepare it for casting.	10	12
2019-2020	938601	SMAW FILLET/OFC	This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting.	10	12
2019-2020	938602	SMAW FILLET/PAC/CAC	This course provides the student with instruction on safety practices and terminology in the Shielded Metal Arc Welding (SMAW) process. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938603	INDUSTRIAL BLUEPRINT READING	This course provides students with the understanding and fundamentals of industrial blueprint reading. Emphasis is placed on reading and interpreting lines, views, dimensions, weld joint configurations and weld symbols. Upon completion students should be able to interpret welding symbols and blueprints as they apply to welding and fabrication.	10	12
2019-2020	938604	GTAW CARBON PIPE	This course is designed to provide the student with the practices and procedures of welding carbon pipe using the gas tungsten arc weld (GTAW) process. Emphasis is placed on pipe positions, filler metal selection, purging gasses, joint geometry joint preparation and fit-up. Upon completion, students should be able to identify pipe positions, filler metals, purging gas, proper joint geometry, joint preparation and fit-up to the applicable code.	10	12
2019-2020	938605	GTAW STAINLESS PIPE	This course is designed to provide the student with the practices and procedures of welding stainless steel pipe using the gas tungsten arc weld (GTAW) process. Emphasis is placed on pipe positions, filler metal selection, purging gasses, joint geometry, joint preparation and fit-up. Upon completion, students should be able to identify pipe positions, filler metals, purging gas, proper joint geometry, joint preparation, and fit-up to the applicable code.	10	12
2019-2020	938606	GAS METAL ARC/FLUX FORED ARC WELDING	This course introduces the student to the gas metal arc and flux cored arc welding process. Emphasis is placed on safe operating practices, handling and storage of compressed gasses, process principles, component identification, various welding techniques and base and filler metal identification.	10	12
2019-2020	938607	SHIELDED METAL ARC WELDING GROOVE	This course provides the student with instruction on joint design, joint preparation, and fit-up of groove welds in accordance with applicable welding codes. Emphasis is placed on safe operation, joint design, joint preparation, and fit-up. Upon completion, students should be able to identify the proper joint design, joint preparation and fit-up of groove welds in accordance with applicable welding codes.	10	12
2019-2020	938608	SMAW FILLET/OFC LAB	This course is designed introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. This course is also designed to instruct students in the safe operation of oxy-fuel cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-3 groups in accordance applicable welding code and be able to safely operate oxy-fuel equipment and perform those operations as per the applicable welding code.	10	12
2019-2020	938609	SMAW FILLET/ PAC/CAC LAB	This course is designed introduce the student to the proper set-up and operation of the shielded metal arc welding equipment. Emphasis is placed on striking and controlling the arc, and proper fit up of fillet joints. This course is also designed to instruct students in the safe operation of plasma arc and carbon arc cutting. Upon completion, students should be able to make fillet welds in all positions using electrodes in the F-4 groups in accordance with applicable welding code and be able to safely operate plasma arc and carbon arc equipment and perform those operations as per applicable welding code.	10	12
2019-2020	938610	GAS METAL ARC/FLUX CORED ARC WELDING LAB	This course provides instruction and demonstration using the various transfer methods and techniques to gas metal arc and flux cored arc welds. Topics included are safety, equipment set-up, joint design and preparation, and gases.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938611	SHIELDED METAL ARC WELDING GROOVE LAB	This course provides instruction and demonstrations in the shielded metal arc welding process on carbon steel plate with various size F3 and F4 group electrodes in all positions. Emphasis is placed on welding groove joints and using various F3 and F4 group electrodes in all positions. Upon completion, the student should be able to make visually acceptable groove weld joints in accordance with applicable welding codes.	10	12
2019-2020	938612	GTAW CARBON PIPE LAB	This course is designed to provide the student with the skills in welding carbon steel pipe with gas tungsten arc welding techniques in various pipe weld positions. Upon completion, students should be able to perform gas tungsten arc welding on carbon steel pipe with the prescribed filler metals in various positions in accordance with the applicable code.	10	12
2019-2020	938613	GTAW STAINLESS PIPE LAB	This course is designed to provide the student with the skills in welding stainless steel pipe with gas tungsten arc welding techniques in various pipe weld positions. Upon completion, students should be able to perform gas tungsten arc welding on stainless steel pipe with the prescribed filler metals in various positions in accordance with the applicable code.	10	12
2019-2020	938614	CONSUMABLE WELDING PROCESSES	This course provides instruction and demonstration with the consumable welding processes to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of electrode, current/polarity, shielding gas and base metals.	10	12
2019-2020	938615	CONSUMABLE WELDING PROCESSES LAB	This course provides instruction and demonstration with the consumable welding processes to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of electrode, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using consumable welding processes according to AWS Codes and standards.	10	12
2019-2020	938616	ROBOTIC PRGRAMMING AND WELDING	This program introduces students to the safety and programming associated with robotic welding technology. Topics include robotic weld station familiarity, safety, robotic motions, programming, and welding inspection. Upon completion, the student should be able to setup and program a robot to weld parts in an efficient and safe manner.	10	12
2019-2020	938617	CONSUMABLE WELDING APPLICATIONS	This course provides instruction and demonstration with consumable welding processes for ferrous and non-ferrous materials to produce groove and fillet welds in various positions, according to applicable welding codes. Topics may include safe operating practices for pulse and tubular applications, equipment identification, equipment set-up, correct selection of electrodes, current/polarity, shielding gas and base metals.	10	12
2019-2020	938618	CONSUMABLE WELDING APPLICATIONS LAB	This course provides instruction and demonstration with consumable welding processes for ferrous and non-ferrous materials to produce groove and fillet welds in various positions, according to applicable welding codes. Topics may include safe operating practices for pulse and tubular applications, equipment identification, equipment set-up, correct selection of electrodes, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using consumable welding processes according to AWS Codes and standards.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938619	FLUX CORE ARC WELDING (FCAW)	This course provides instruction and demonstration with the flux core arc welding process to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of filler metals, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using the FCAW welding process, according to AWS Codes and Standards	10	12
2019-2020	938620	FLUX CORE ARC WELDING LAB	This course provides instruction and demonstration with the flux core arc welding process to produce groove and fillet welds in all positions, according to applicable welding codes. Topics include safe operating practices, equipment identification, equipment set-up, correct selection of filler metals, current/polarity, shielding gas and base metals. Upon completion, the student should be able to produce groove and fillet welds using the FCAW welding process, according to AWS Codes and Standards.	10	12
2019-2020	938621	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	938622	SMAW CARBON PIPE	This course introduces the student to the practices and procedures of welding carbon steel pipe using the shielded metal arc weld (SMAW) process. Emphasis is placed on pipe positions, electrode selection, joint geometry, joint preparation and fit-up. Upon completion, students should be able to identify pipe positions, electrodes, proper joint geometry, joint preparation, and fit-up in accordance with applicable codes.	10	12
2019-2020	938623	CERTIFICATION	This course is designed to provide the student with the knowledge needed to perform welds using the prescribed welding process. Emphasis is placed on the welding test joints in accordance with the prescribed welding code. Upon completion, students should be able to pass an industry standard welding test in accordance with various applicable welding code requirements.	10	12
2019-2020	938624	WELDING INSPECTION/TESTING	This course provides the student with inspection skills and knowledge necessary to evaluate welded joints and apply quality control measures as needed. Emphasis is placed on interpreting welding codes, welding procedures, and visual inspection methods. Upon completion, students should be able to visually identify visually acceptable weldments as prescribed by the code or welding specification report.	10	12
2019-2020	938625	PIPEFITTING AND FABRICATION	This course provides the student with skills and practices necessary for fabricating pipe plans using pipe and fittings. Emphasis is placed on various pipe fittings to include various degree angles. Upon completion, students should be able to fit various pipe fittings, and cut and fabricate tees, and assorted angles.	10	12
2019-2020	938626	BLUEPRINT READING FOR FABRICATION	This course provides a student with advanced skills in identifying and interpreting lines, views, dimensions, notes, bill of materials, and the use of tools of the trade. Emphasis is placed on figuring dimensional tolerances, layout and fitting of different component parts. Upon course completion, a student should be able to interpret, layout, and fabricate from blueprints to given tolerances.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938627	GAS TUNGSTEN ARC WELDING	This course provides student with knowledge needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.	10	12
2019-2020	938628	BOILER TUBE	This course is designed to provide the student with the practices and procedures of welding boiler tubes using the gas tungsten arc and shielded metal arc welding process to the applicable code. Emphasis is placed on tube fit-up, tube welding technique, and code requirements. Upon completion, students should be able to identify code requirements and tube welding technique.	10	12
2019-2020	938629	ORBITAL GAS TUNGSTEN ARC WELDING	This course provides student with skills needed to perform orbital gas tungsten arc pipe welds using ferrous and/or non-ferrous metals according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals.	10	12
2019-2020	938630	ORBITAL GAS TUNGSTEN ARC WELDING LAB	This course is designed to provide the student with the practices and procedures of welding carbon pipe using the orbital gas tungsten arc welding process (GTAW). Emphasis is placed on welding pipe using the orbital GTAW process in the 2G, 5G and 6G positions to code requirements.	10	12
2019-2020	938631	PIPE PREPARATION FOR ORBITAL WELDING LAB	This course provides practical application of the concepts and principles of machining conventional and narrow groove pipe end bevels using hydraulic and pneumatic equipment for precision orbital welding applications.	10	12
2019-2020	938632	SMAW CARBON PIPE LAB	This course is designed to provide the student with the skills in welding carbon steel pipe with shielded metal arc welding techniques in various pipe welding positions. Upon completion, students should be able to perform shielded metal arc welding on carbon steel pipe with the prescribed electrodes in various positions in accordance with the applicable codes.	10	12
2019-2020	938633	CERTIFICATION LAB	This course is designed to provide the student with the skills needed to perform welds using the prescribed welding process. Emphasis is placed on the welding test joints in accordance with the prescribed welding code. Upon completion, students should be able to pass and industry standard welding test in accordance with various welding code requirements.	10	12
2019-2020	938634	GAS TUNGSTEN ARC LAB	This course provides student with skills needed to perform gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals. Upon completion, a student should be able to identify safe operating practices, equipment identification and setup, correct selection of tungsten type, polarity, shielding gas, filler metals, and various welds on ferrous and/or non-ferrous metals, using the gas tungsten arc welding process according to applicable welding codes.	10	12
2019-2020	938635	BOILER TUBE LAB	This course is designed to provide the student with the skills in welding boiler tubes using the gas tungsten arc and shielded metal arc welding process using filler metals in the F6 and F4 groups to applicable code. Emphasis is placed on welding boiler tubes using the gas tungsten arc and shielded metal arc welding process in the 2G and 6G positions in accordance with the applicable code. Upon completion, students should be able to perform gas tungsten arc and shielded metal arc welding on boiler tubes with the prescribed filler metals in the 2G and 6G positions to the applicable code.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938636	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	938637	CO-OP	These courses constitute a series wherein the student works on a part-time basis in a job directly related to welding. In these courses the employer evaluates the student's productivity and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.	10	12
2019-2020	938638	SMAW Fillet/OFC	This course provides the student with instruction and opportunities to develop skills with Shielded Metal Arc Welding (SMAW) processes. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting. Prerequisite: As required by college.	10	12
2019-2020	938639	SMAW Fillet/PAC/CAC	This course provides students with instruction and opportunities to develop skills with Shielded Metal Arc Welding (SMAW) processes. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides students with skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting. Prerequisite: As required by college.	10	12
2019-2020	938801	WORKPLACE SKILLS DEVELOPMENT I	This course emphasizes foundational information for students to develop knowledge and skills to prepare them for employment following completion of technical and academic programs. As part of this course students will participate in WorkKeys assessment and research related to the Labor Management Information (LMI). At the conclusion of this course, students will have knowledge and skills relevant to work ethic, communication, resume writing, job interviewing, dress and appearance, behavior, problem solving, decision making, and project management.	10	12
2019-2020	938802	WORKPLACE SKILL DEVELOPMENT II	This course is designed to access and develop skills necessary for success in the workplace. Students may receive computer assisted instruction under faculty supervision on such topics as applied mathematics, applied technology, reading for information, and locating information as well as classroom instruction in areas such as resume preparation and interviewing skills. Upon completion of the course, students will have developed a career credentials document, a comprehensive portfolio of their college work, including Work Keys scores.	10	12
2019-2020	938803	APPLIED TECHNOLOGY IV	This course is designed to enable students to solve problems involving a moderately complex system or the interaction of two or more simple systems. Students will be able to solve problems involving the operation of moderately complex tools, machines, and systems such as appliances, pulley-driven equipment, or piping systems that carry more than one fluid. Students must apply somewhat abstract and less intuitive elementary principles underlying the operation of physical systems to the solutions of work-related problems, such as block and tackle or cooling fins. Students will be able to identify information relevant to solving two-variable problem and disregard extraneous information. Students will be able to eliminate physical symptoms as the potential source of a problem or identify the best solution after eliminating other possibilities.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	938804	WORKPLACE SKILLS	This course is an overview of issues relevant to the general workforce. The course is designed to enhance students' communication, lifelong learning, interpersonal, and decision-making skills in preparation for employment.	10	12
2019-2020	938805	WORKPLACE SKILLS PREPARATION	This course utilizes computer based instructional modules which are designed to access and develop skills necessary for workplace success. The instructional modules in the course include applied mathematics, applied technology, reading for information, and locating information. Upon completion of this course, students will be assessed to determine if their knowledge of the subject areas has improved.	10	12
2019-2020	938806	NCCER CORE	This course is designed to provide students with knowledge and skills related to multi-craft technicians in a variety of fields. Information in this course is based on the National Center for Construction Education and Research (NCCER) core curriculum and prepares students to test for the NCCER credential.	10	12
2019-2020	938807	MSSC Maintenance Awareness Course	This course is designed to provide students with knowledge and skills related to maintenance awareness in a manufacturing environment. This course is equivalent to MET 220. Students completing this course will receive an MSSC certificate in maintenance awareness. Students completing courses WKO 131, 132, 133 and 134 will receive the Certified Production Technician credential.	10	12
2019-2020	939001	WATER SUPPLY AND WASTEWATER CONTROL	This course is designed to familiarize the student with water supply and wastewater control. Emphasis is on the engineering aspects of water supply, water distribution, wastewater collection, and wastewater treatment and disposal. Upon course completion, students should be able to apply engineering and scientific concepts and principles of water supply and wastewater control.	10	12
2019-2020	939002	INTRODUCTION TO WATER TREATMENT PROCESSES	This course is designed to train prospective water treatment plant operators and managers in the practical aspects of operating and maintaining water treatment plants, with emphasis on the use of safe practices and procedures. Students will learn how to safely operate and maintain coagulation, flocculation, sedimentation, filtration, and disinfection processes. They will also learn how to control tastes and odors in drinking water, control corrosion to meet the requirements of the Lead and Copper Rule, perform basic water laboratory procedures, and solve arithmetic problems commonly associated with water treatment plant operations.	10	12
2019-2020	939003	INTRODUCTION TO WASTEWATER TREATMENT PROCESS	This course is designed to train prospective wastewater treatment plant operators and managers in the practical aspects of operating and maintaining wastewater treatment plants, with emphasis on the use of safe practices and procedures. Students will learn how to operate and maintain racks, screens, comminutors, sedimentation tanks, trickling filters, rotating biological contactors, package activated sludge plants, oxidation ditches, ponds, and chlorination facilities. Students will also learn how to analyze and solve operational problems and how to perform mathematical calculations relating to wastewater treatment process control.	10	12
2019-2020	939004	SANITARY CHEMISTRY AND BIOLOGY	This course is designed to acquaint the student with the fundamentals of microbiology and chemistry applicable to water and wastewater management. Emphasis is on laboratory procedures pertinent to water/wastewater treatment. Upon course completion, students should be able to perform relevant laboratory procedures.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	939005	INDUSTRIAL WATER AND WASTEWATER TREATMENT	This course is designed to teach the processes of industrial water and wastewater treatment. Topics will include pre-treatment of water, and treatment of wastewater. Emphasis will be placed on environmental concerns, maximum contaminant levels for heavy metals, and/or other substances such as organic or inorganic materials. The use of laws and regulations will be highlighted including natural resources statutes, residual management statutes (Clean Water and Clean Air Act) Permitting and water quality standards, enforcement of the Clean Water Act, spill liabilities, international treaties, laws and regulations, water/wastewater system planning, regulations for wastewater collection systems, Three steps to the treatment process (physical, chemical, and biological processes) sludge and solide waste management, specialized processes.	10	12
2019-2020	939006	WATER AND WASTEWATER INSTRUMENTATION AND CONTROLS	This course focuses on the basic fundamentals of instrumentation applicable to water and wastewater management. The application, maintenance, and calibration of instruments in water and wastewater systems are emphasized. Upon course completion, students should be able to read, calibrate and maintain mechanical, electrical, hydraulic, and pneumatic sensing equipment; and indicating, recording, and control equipment.	10	12
2019-2020	939007	BASIC HYDRAULICS FOR WATER AND WASTEWATER TECHNOL	This course is designed to provide the student with an understanding of practical hydraulic design related to water supply and wastewater control. Topics include the collection, treatment, and distribution of water and collection and treatment of domestic and industrial wastewater. Upon course completion, students should be able to apply principles of hydraulic systems to water and wastewater management practices.	10	12
2019-2020	939008	WATER STATE CERTIFICATION PREPARATION	This course is designed to prepare the students to take the wastewater state certification licensing exam.	10	12
2019-2020	939009	WATER STATE CERTIFICATION PREPARATION	This course is designed to prepare the students to take the wastewater state certification licensing exam.	10	12
2019-2020	939010	MUNICIPAL INTERNSHIP	This course is designed to allow a student first-hand experience in a municipal wastewater facility or a research facility. These placements will be coordinated through the wastewater treatment program and may include compensated or uncompensated placement.	10	12
2019-2020	940001	BIOMEDICAL ELECTRONIC SYSTEMS I	This course is an introduction to theory and patient safety. Included in the course are rules and regulations associated with mechanical and electrical equipment. Upon completion of the course the student will be able to test and measure unwanted potentials in medical devices.	10	12
2019-2020	940002	Medical Communications Systems	This course is an introduction into principles of telemetry systems. Included in this study are many of the medical devices that are used in the medical profession. Upon completion of this course the student will be able to troubleshoot basic communication systems currently used in hospitals.	10	12
2019-2020	940003	Pulse and Computer Circuits	The purpose of this course is to acquaint the student with the concepts necessary to troubleshoot microprocessor based circuits found in medical devices. Students will construct and use basic database programs for medical equipment management. Upon completion of this course the student will be able to repair and troubleshoot computer circuits found in medical devices.	10	12
2019-2020	940004	Biomedical Electronic Systems III	This course is a continuation of BET 232. Included in this course is the technical information needed to safely operate an assortment of medical monitoring equipment. Upon completion of this course the student will be able to repair and troubleshoot problems associated with various medical devices.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	940005	Clinical On-Site Study	The purpose of this course is to assign each student to a local hospital facility to work as a trainee. Students will work with qualified individuals in the field. Upon completion of this course the student will be prepared to assume an entry level position in a medical facility or with a vendor.	10	12
2019-2020	940006	The Law and Legal Issues in Biomed	The purpose of this course is to acquaint the student with current law and issues as they relate to Biomed. The student will research current and past legal decisions related to Biomed. Upon completion of this course each student will be able to search periodicals for current legal issues.	10	12
2019-2020	940201	Phlebotomy	This course covers the basic techniques used in the collection of blood specimens. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Upon completion, students should be able to correctly perform venipuncture.	10	12
2019-2020	940202	Phlebotomy Certification	This course covers the basic techniques used in the collection of blood specimens. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. Upon completion, students should be able to correctly perform venipuncture.	10	12
2019-2020	940203	Phlebotomy Clinical	This is a supervised practicum within the clinical setting that provides laboratory practice in phlebotomy. Emphasis is placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems.	10	12
2019-2020	941201	Cardiopulmonary Resuscitation	This course provides students with concepts as related to areas of basic life support to include coronary artery disease, prudent heart living, symptoms of heart attack, adult one-and-two rescuer CPR, first aid for choking, pediatric basic life support, airway adjuncts, EMS system entry access, automated external defibrillation (AED), and special situations for CPR. Upon course completion, students should be able to identify situations requiring action related to heart or breathing conditions and effectively implement appropriate management for each condition. Students successfully completing this course will receive appropriate documentation of course completion.	10	12
2019-2020	941202	Cardiopulmonary Resuscitation II	This course provides students with a review of concepts learned in EMS-100. In addition, the course provides the student with theory and application of airway adjuncts as utilized with airway obstruction and maintenance as well as respiratory and cardiac arrest. Assessment and management of acute ischemic stroke will also be included. Upon course completion, students should be able to identify situations requiring action related to heart or breathing conditions and effectively implement appropriate management for these conditions. Students successfully completing this course will receive appropriate documentation of course completion.	10	12
2019-2020	941203	First Aid/CPR	This course provides a study of basic first aid and cardiopulmonary resuscitation (CPR). Students will be able to perform basic first aid and CPR techniques. Upon completion, the student will be eligible for CPR certification testing.	10	12
2019-2020	941204	First Aid for Students of Health Related Professions	This course is designed for students who plan to enter a health related profession and provides educational concepts related to first aid for various health disciplines. The course includes instruction in the emergency administration of oxygen, use of airway adjuncts, medication administration techniques, equipment for mechanical breathing, suctioning techniques, and automated external defibrillation (AED). Upon course completion, students should have the ability to recognize emergency situations requiring immediate action and appropriately manage these situations.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941205	Emergency Medical Responder	This course provides theory in emergency procedures as contained in the current National Standard Training Curriculum (NSTC) for the First Responder. The course is an introduction to the emergency medical services system and provides fundamentals for students to improve the quality of emergency care provided as the first person to an emergency scene until emergency medical services arrive. Completion of specific student competencies, as outlined in the current NSTC for the First Responder, are required for successful course completion.	10	12
2019-2020	941206	Medical Terminology	This course provides students with a survey of words, terms, and descriptions commonly used in health related professions. The course includes spelling, pronunciation, and meaning of prefixes, suffixes, roots, and terms. Students may have the opportunity to utilize computer assisted instruction for learning various medical terms. Upon course completion, students should have the knowledge to associate a variety of medical terms with their meaning and utilize medical terms to effectively communicate with other health professionals.	10	12
2019-2020	941207	Infection Control for Health Professionals	This course is designed for students planning to enter a health related field of study or public service occupations. The course focuses on the sources of communicable diseases and describes methods for prevention of transmission of bloodborne and airborne pathogens. Topics include prevention; universal precautions (body-substance isolation) and asepsis; immunization; exposure control; disposal; labeling; transmission; exposure determination; post-exposure reporting; and an exposure control plan. The course is taught following current guidelines set forth by the Occupational Safety and Health Administration (OSHA). Upon course completion, students should be able to participate in the clinical setting, identify potential sources of bloodborne and airborne pathogens, and use appropriate universal precautions.	10	12
2019-2020	941208	Emergency Medical Technician	This course is required to apply for certification as an Emergency Medical Technician. This course provides students with insights into the theory and application of concepts related to the profession of emergency medical services. Specific topics include: EMS preparatory, airway maintenance, patient assessment, management of trauma patients, management of medical patients, treating infants and children, and various EMS operations. This course is based on the NHTSA National Emergency Medical Services Education Standards	10	12
2019-2020	941209	Emergency Med Technician Clinical	This course is required to apply for certification as an EMT. This course provides students with clinical education experiences to enhance knowledge and skills learned in the EMS 118, Emergency Medical Technician Theory and Lab. This course helps students prepare for the National Registry Exam.	10	12
2019-2020	941210	EKG Interpretation	This course is designed for students in health related professions desiring the knowledge to interpret singular lead electrocardiograms. The course provides concepts in the interpretation of electrocardiograms to include an overview of the electrical conduction of the heart as well as the identification of all categories of dysrhythmias. Upon course completion, students should be able to identify various types of cardiac rhythms.	10	12
2019-2020	941301	Medical Terminology	This course is an introduction to the language of medicine. Course emphasis is on terminology related to disease and treatment in correlation with anatomy and physiology of all anatomical body systems. Student competencies include word construction, definition, spelling, pronunciation, and use of correct abbreviations for numerous medical terms.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941302	Diagnostics and Pharmacology	This course is a study of drug classifications and diagnostic procedures. Instruction includes information on common laboratory findings and the significance of abnormal findings in disease processes. At the conclusion of the course, the student should be able to apply knowledge regarding medications and tests used in treatment and diagnosis of abnormal human conditions.	10	12
2019-2020	941303	Anatomy, Physiology and Medical Terminology	This course is an introduction to the structure and function of anatomical body systems and the language of medicine. Upon completion, students should be able to demonstrate a basic understanding of human anatomy and physiology and be able to spell, define, pronounce and correctly use a number of medical terms and abbreviations.	10	12
2019-2020	941304	Pathophysiology and Pharmacology for HIT	This course is a detailed study of common pathological conditions and the drugs of choice used in their treatment. Course focus is on description of conditions and diseases of the organ systems including etiology, signs and symptoms, methods of diagnosis, and treatment. Expected student outcomes include ability to analyze signs and symptoms in identifying disease entities and ability to describe appropriate diagnostic and treatment modalities.	10	12
2019-2020	941305	Pharmacology for HIT	This course is a study of drug classifications. The course focuses on generic and name brand drugs and their use. At the conclusion of the course, the student should be able to apply knowledge regarding certain drugs and their usage in treatment and prevention of disease.	10	12
2019-2020	941306	Pathology and Pharmacology I for HIT	This course provides a review of diseases and medical terminology of major organ systems. Emphasis is placed on etiology, signs and symptoms, complications and treatment methods. Upon completion, students should be able to define, spell, and describe terms related to disease, procedures, drugs, and medical specialties.	10	12
2019-2020	941307	Pathology and Pharmacology II for HIT	This course is a continuation of HIT 117 which provides a review of diseases and medical terminology of major organ systems. Emphasis is placed on etiology, signs and symptoms, complications and treatment methods. Upon completion, students should be able to define, spell, and describe terms related to disease, procedures, drugs, and medical specialties.	10	12
2019-2020	941308	Introduction to Keyboarding for HIT	This course covers basic keyboarding skills using medical terminology and format. Emphasis is placed on correct techniques and development of speed and accuracy. Upon completion, students should be able to key medical information at an acceptable speed and level of accuracy.	10	12
2019-2020	941309	HIT Classification and Reimbursement	This course includes study of the uses of coded data in reimbursement and payment systems appropriate to all health care settings. Course instruction focuses on techniques of coding, elements of prospective payment systems, billing and insurance procedures, third party payers, explanation of benefits, managed care/capitation, and chargemaster description. Student competencies include demonstration of reimbursement and payment system principles, coding skills and billing applications (manual and/or computer-assisted).	10	12
2019-2020	941310	Classification Skills Laboratory	This course allows the student to develop basic skills in classification and reimbursement methodologies. Emphasis is on coding techniques and billing procedures. Student competency is demonstrated by application of skills acquired in the theory class.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941311	HIT Legal and Ethical Issues	This course is a review of the legal aspects applicable to health information. The course focuses on the health record as a legal document, legal principles, patient rights/advocacy issues, definition and application of professional ethics, privacy, and release of information and confidentiality of health information. Student outcomes include demonstration of the use of legal vocabulary and application of release of information guidelines.	10	12
2019-2020	941312	Health Data Content and Structure	This course is an introduction to the health information technology (HIT) profession and its basic skill requirements. The course includes an introduction to the content, use and structure of health care data and data sets and how these components relate to primary and secondary record systems. Student outcomes include mastery of basic concepts and functions in HIT including storage and retrieval systems, documentation requirements, abstracting, quantitative and qualitative analysis, registries and indexes.	10	12
2019-2020	941313	Skills Development Laboratory	This course allows the student to demonstrate basic competencies acquired in course work with laboratory experience. Emphasis is on development of basic HIT competencies. Student competency is demonstrated by application of basic skills covered in theory classes.	10	12
2019-2020	941314	Healthcare Delivery Systems	This course includes a review of health care delivery systems. Course focus is on information management practices of agencies that provide health services in ambulatory care, home health care, hospice, long term care, mental health, and other alternate care systems. Student competency includes the ability to describe and contrast the structure of health services in relation to operational and accrediting agency standards, and the role of the health information practitioner in each of these settings.	10	12
2019-2020	941315	Introduction to the Clinical Environment for HIT/MCC	This course is an introduction to the expectations and legal requirements of the clinical environment. Emphasis is placed on personal safety, personal integrity and accountability, and universal clinical expectations. Upon completion, the student should be able to demonstrate pre-clinical competency in clinically relevant topics, such as HIPAA regulations, universal precautions and safety regulations.	10	12
2019-2020	941316	Professional Practices Experience	This course allows the student to demonstrate basic competencies acquired in previous course work with on-site, online, and/or on-campus simulations. This course requires student practice in health information technology in a health care facility or simulated online or on campus experience. Student competency is demonstrated by application of basic skills covered in theory and laboratory classes.	10	12
2019-2020	941317	HIT Computer Applications	This course is a survey of computer usage in health care with emphasis on data security and integrity in health information systems. Course instruction focuses on concepts of computer technology related to health care and the tools and techniques for collecting, storing, retrieving, and transmission of health care data. Upon completion, students should be able to demonstrate knowledge of and competence in the use of various health information specific software applications.	10	12
2019-2020	941318	HIT Computer Applications Laboratory	This course is designed to provide the opportunity to apply HIT computer application skills in online and/or on-campus laboratory. Emphasis includes concentration in the use of computer technology in collecting, storing, retrieving, reporting, and displaying health care data. Upon completion, student should be able to demonstrate specific computer skills in these areas.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941319	Medical Coding Systems I	This course is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes description of classification and nomenclature systems; coding diagnoses and/or procedures; sequencing codes; analyzing actual medical records to identify data elements to be coded; and validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted).	10	12
2019-2020	941320	Medical Coding Skills Laboratory	This course provides laboratory practice in medical coding. The course allows the student to become proficient at skills learned in classification and coding systems theory classes. Student competency is demonstrated by accuracy in medical coding	10	12
2019-2020	941321	Medical Coding Systems II	This course is a continuation of Medical Coding Systems I which is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes coding diagnoses and/or procedures; sequencing codes; analyzing actual medical records to identify data elements to be coded; validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted).	10	12
2019-2020	941322	Medical Coding Skills Laboratory	This course provides laboratory experience in medical coding. The course allows the student to become proficient at skills learned in medical coding systems theory classes. Student competency is demonstrated by accuracy and speed in medical coding simulation.	10	12
2019-2020	941323	Medical Coding Systems III	This course is intended to develop an understanding of coding and classification systems in outpatient settings in order to assign valid medical codes. Instruction includes coding for outpatients and physicians; sequencing codes; analyzing actual physician documentation to identify data elements to be coded; and validating coded clinical information. Student competency includes demonstration of outpatient coding principles and applications (manual and/or computer assisted).	10	12
2019-2020	941324	Medical Coding Skills Laboratory	This course provides laboratory experience in medical coding. The course allows the student to become proficient at skills learned in medical coding systems theory classes. Student competency is demonstrated by accuracy and speed in medical coding simulation.	10	12
2019-2020	941325	Organizational Improvement	This course is a study of the purpose and principles of improving organizational performance through quality assessment and utilization management. Topics include use of quality improvement tools; data collection, display, analysis, and reporting methods; resource and risk management techniques; healthcare statistics; and application of accreditation and licensing standards. Student outcomes include demonstrated proficiency in the use of quality improvement techniques and application of accrediting agency standards.	10	12
2019-2020	941326	Principles of Supervision in HIT	This course is an introduction to principles of organization and supervision in a health information department. The course focuses on specific human resource management functions including communication, motivation, team building, budgeting, staff scheduling, productivity reporting, policy and procedure development, equipment selection. Student competency includes demonstration of knowledge of human resource functions and application of supervisory skills.	10	12
2019-2020	941327	Professional Practice Experience II	This course allows students to correlate the experience of previous courses with on-site, online, and/or on-campus simulations and learning experience. Emphasis is placed on application of all previous course work and orientation to all aspects of practice in a health information management department of a health care facility. Student competency is demonstrated by application of skills covered in theory and laboratory classes.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941328	Medical Coding Professional Practice	This course provides experience in medical coding of actual charts. The course allows the student to demonstrate basic competencies acquired in previous medical coding course work with on-site, online, and/or on-campus simulations and learning experiences. Student competency includes demonstrated medical coding proficiency.	10	12
2019-2020	941329	Expanded Medical Coding	This course is intended for students to develop an understanding of coding and classification systems in inpatient settings in order to assign valid medical codes. Instruction includes coding inpatient procedures, and correct sequencing of codes; analyzing actual physician documentation to identify data elements to be coded; and validating coded clinical information. Student competency includes demonstration of inpatient coding principles and applications (manual and/or computer assisted).	10	12
2019-2020	941330	HIT Seminar (Exam Preparation)	This course is an extensive review of health information technology skills. Course work includes a review of various aspects of health information technology. Student outcomes include demonstrated understanding of the topics covered in this course.	10	12
2019-2020	941331	HIT Exam Review	This course is an extensive review of health information technology skills. Course work includes a review of various aspects of health information technology. Student outcomes include demonstrated understanding of the topics covered in this course.	10	12
2019-2020	941332	Professional Practices Simulations	This course allows students to correlate the experience of previous courses with on-site, online, and on-campus simulations and learning experience. Emphasis is placed on application of all previous course work and orientation to all aspects of practice in a health information management department of a health care facility. Student competency is demonstrated by application of skills covered in theory and laboratory classes.	10	12
2019-2020	941401	Safety Issues for Clinical Practice	This course focuses on microbial and physical safety for clinical practice. Emphasis is placed on guidelines established by the Occupational Safety and Health Administration (OSHA) and the Alabama State Department of Public Health; topics include prevention of transmission of blood-borne and air-borne pathogens as well as prevention of injuries during clinical practice. Upon completion of this course, the student should be able to participate in the clinical setting and implement measures which will prevent injuries and utilize appropriate universal precautions.	10	12
2019-2020	941402	Cardiopulmonary Resuscitation I	This course includes theory and application in basic life support. Emphasis is placed on the areas of single rescuer cardiopulmonary resuscitation (CPR) of the adult, two-rescuer CPR, managing obstructed airways, and infant and child CPR. Upon completion of the course, the student should be able to recognize situations that require CPR and effectively implement CPR.	10	12
2019-2020	941403	Foundation Competencies for Health Sciences	This course is designed to assist the student in developing the knowledge, skills and abilities necessary to be successful in health-related disciplines. Content focuses on development and use of effective study and test-taking skills, assertiveness training, stress management, values clarification, diversity, ethical-legal concepts, problem-solving and communication skills. Upon completion of this course, the student will demonstrate the knowledge, skills and abilities needed to be successful in the student role.	10	12
2019-2020	941404	Medical Terminology	This course is an application for the language of medicine. Emphasis is placed on terminology associated with health care, spelling, pronunciation, and meanings associated with prefixes, suffixes, and roots as they relate to anatomical body systems. Upon completion of this course, the student should be able to correctly abbreviate medical terms and appropriately use medical terminology in verbal and written communication.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941405	First Aid	This course provides instruction in the administration of emergency assistance to individuals who have been injured or otherwise disabled prior to transport or medical care. Topics include basic life support and first aid care for use with bleeding, wounds, poisoning, soft tissue and bone injuries, fractures, insect stings, animal bites, minor burns, cold and heat-related injuries, and select medical emergencies. Upon completion of this course, the student should be able to render basic first aid care required with common injuries or illnesses.	10	12
2019-2020	941406	ASEPSIS	This interdisciplinary course provides the student with the opportunity to study pathological organisms as they relate to health, illness, and maintenance of physiological integrity. The principles and skills of clean and sterile technique, universal precautions, medical isolation, and OSHA guidelines are included. Related medical terminology may be presented through computer assisted instruction. Upon completion of this course, students should be able to apply these principles in a variety of clinical settings.	10	12
2019-2020	941407	Introduction to Health Care	This interdisciplinary course focuses on topics in health care which are common to health care disciplines. Emphasis is placed on communication, client/employee safety, psychosocial aspects of health care, health care delivery systems, professionalism, ethical/legal issues in health care, historical perspectives of various health care professions, and medical terminology.	10	12
2019-2020	941408	Computer Application for the Health Sciences	This course introduces computer applications relevant for use in the health sciences. Emphasis is placed on the use of Windows, health-related software, Internet, and basic word processing. Upon completion of this course, the student should demonstrate basic competency in the use of computers.	10	12
2019-2020	941409	Medical Terminology for Health Care	This course is an introduction to medical terminology used in health sciences. Emphasis is placed on terminology associated with health care, spelling, pronunciation, and meaning associated with prefixes, suffixes, and roots as they relate to anatomical body systems. Upon completion of this course, the student should be able to correctly abbreviate medical terms and appropriately use medical terminology in verbal and written communication.	10	12
2019-2020	941410	Spanish for Health Care Professionals I	This course provides an introduction to Spanish with a focus on the basic communication skills and vocabulary needed by health professionals when a non-English speaking Hispanic enters a health care setting. Topics include soliciting identification information, history taking, performance of physical exam and giving instructions on general care and follow-up.	10	12
2019-2020	941411	Basic Pharmacology	This course is an introduction to basic pharmacology. Content includes classifications, indications, contraindications, desired effects, and side effects of medications used during diagnostic procedures and the prevention and treatment of common illnesses. Upon completion of the course, the student should be able to relate basic pharmacological concepts to the maintenance of health.	10	12
2019-2020	941412	Overview of Complementary and Alternative Health Therapies	This course provides a comprehensive overview of the major systems of health care other than the traditional allopathic or western medical system. Included is a comparison of the various characteristics and philosophies behind complementary and alternative therapies. Upon completion, the student will be able to verbalize the differences between the traditional health care system and the major complementary and/or alternative therapies.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941413	Phlebotomy	The Phlebotomy course is designed to train individuals to properly collect and process blood and other clinical specimens for laboratory testing and to interact with health care personnel, clients, and the general public. Presentation includes equipment and additives, basic anatomy, and techniques for safe and effective venipuncture. The phlebotomy clinical will be a supervised practicum within the clinical setting that provides laboratory practice in phlebotomy. Emphasis will be placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems. This course will prepare individuals to write the Phlebotomist Certification Examination.	10	12
2019-2020	941414	Fundamentals of Phlebotomy	This course is designed to train individuals in the principles and methods of obtaining blood for diagnostic purposes and monitoring of prescribed treatment as well as receiving other clinical specimens for laboratory testing. The phlebotomy student will be taught to interact with clients, health care personnel, and with the general public. Laboratory presentation and practice will include equipment and additives, basic anatomy, specimen receiving and processing, and techniques for safe and effective capillary puncture and venipuncture. This course along with the Phlebotomy Clinical will prepare individuals to write the Phlebotomist Certification Examination.	10	12
2019-2020	941415	Phlebotomy Clinical	This supervised practicum within a healthcare setting will provide the phlebotomy student with hands-on training in capillary puncture, venipuncture, and receiving of other laboratory specimens. Emphasis will be placed on collection techniques, specimen processing, work flow practices, referrals, and utilizing laboratory information systems. This course along with Fundamentals of Phlebotomy will prepare individuals to write the Phlebotomist Certification Examination.	10	12
2019-2020	941416	Fundamentals of Patient Imaging in Health Care	This course introduces medical imaging to health care workers. Emphasis is placed on an overview of medical imaging modalities with instruction on safety, protocols, preparation, and screening for examinations such as: magnetic resonance imaging (MRI), Computed Tomography (CT), Sonography; mammography, cardiovascular interventional procedures; nuclear medicine technology; and radiation therapy. A supervised learning experience will occur in a medical imaging department.	10	12
2019-2020	941417	CPR, First Aid, Infection Prevention, and Safety Issues for Clinical Practices	This course focuses on administration of cardiopulmonary resuscitation, first aid techniques, prevention of infection and prevention of injuries in the clinical setting. Emphasis is placed on airways, and infant and child CPR. First aid topics include first aid care for bleeding wounds, poisoning, soft tissue and bone injuries, fractures, insect stings, animal bites, minor burns, hot and cold related injuries, and other medical emergencies. Infection prevention includes the study of pathological organisms as related to health, illness, and study of the chain of infection. Other topics include clean and sterile techniques, universal precautions, and medical isolation. Emphasis is also placed on the guidelines established by Occupational Safety and Health Administration (OSHA) and the Alabama State Department of Public Health. Topics include prevention of transmission of blood-borne and airborne pathogens as well as prevention of injuries during clinical practice. Upon completion of this course the student should be able to practice safely in the clinical setting by promoting safety, and prevention of infection and responding appropriately to medical emergencies.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941418	Personal and Professional Development	This course is designed to assist the student in preparing for a job search as well as developing the skills to be a successful employee. Emphasis is on communication skills, developing resumes, improving interview techniques, setting career goals, conducting job searches, as well as self-esteem and improving personal and professional image. The concept of wellness and the role stress and stress management play in personal wellness and the job performance are examined. Problem solving, conflict resolution and decision-making skills are emphasized as well as work ethic and time management in the role of a successful employee. Upon completion, the student will be able to demonstrate confidence in seeking employment, preparing a professional development plan and possessing valuable skills as an effective employee.	10	12
2019-2020	941501	Introduction to Human Services	This course provides an introduction to human services and related theories and systems. Emphasis is placed on the roles and functions within the existing human services organizations by utilizing service learning or field trips to the different organizations, and guest lecturers representing different human service occupations. Upon completion of this course, students should be familiar with the many agencies and institutions which deliver human services and the components of their delivery systems.	10	12
2019-2020	941502	Introduction to Casework	In this course the basic principles and procedures in problem resolution are examined through the presentation of cases, problems and solutions. Emphasis is placed on the application and effective role of the case aide. Upon completion of this course, the student will be familiar with the procedures for making referrals and sharing information with the professional staff.	10	12
2019-2020	941503	Introduction to Developmental Disabilities	This course provides an introduction to developmental disabilities. Emphasis is placed on the levels of physical, social, mental and emotional functioning of the developmentally disabled. Upon completion of this course, the student will be familiar with the training techniques involved in working with the developmentally delayed.	10	12
2019-2020	941504	Fundamentals of Healthcare	This course provides the concepts related to basic health care needs. Emphasis is placed on taking and recording vital signs, distributing medications, and dealing with person experiencing seizures, psychiatric emergencies, and other health care situations in the human services facility. Upon completion of this course, the student will be prepared to provide care or refer as appropriate for the situation.	10	12
2019-2020	941505	Techniques of Behavior Modification	This course provides the basic principles of operant conditioning and behavior modification techniques. Emphasis is placed on the proper use of positive and negative reinforcement and punishment, along with the different schedules of reinforcement. Upon completion of this course, the student will demonstrate the ability to decrease inappropriate behavior and to shape appropriate behavior through the use of behavior modification techniques such as the ABC method.	10	12
2019-2020	941506	Special Education Issues and Interventions	This course is designed to present basic concepts and practices in special education. Emphasis is on the acceptance of persons with disabilities and/or special instruction needs. The use of behavior modification and other behavioral training techniques will be included. Upon completion of this course, the student should be able to optimize learning opportunities for the gifted/talented student and utilize techniques to enhance the quality of life for persons with disabilities.	10	12
2019-2020	941507	Activity Therapy	This course provides an overview of various activity therapies. Emphasis is on the use of activity therapies to increase self-esteem, dignity, social interaction and for physical, social, emotional and intellectual development. Upon completion of this course, the student will be able to present different therapies and techniques for use in agencies, hospitals and other settings.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941508	Group Dynamics	This course introduces the concepts related to the functioning of small and large groups. Emphasis is on the understanding of behavior and the role of the group leader and members in the group process. The effects of verbal and non-verbal communication on behavior are included. Upon completion of this course, the student should have an understanding of the role and function of groups, both as a member and facilitator.	10	12
2019-2020	941509	Psychopharmacology	This course introduces mental disorders, their epidemiology, diagnosis, and treatment using the medical model. Emphasis is placed upon the use of psychotropic medications. Upon completion of this course, the student will be able to identify appropriate psychotropic medications used to treat mental disorders.	10	12
2019-2020	941510	Mental Health Terminology	This course introduces the student to the terminology of the mental health profession. Emphasis is on terminology of the brain and central nervous system, root forms, prefixes and suffixes, psychiatric terms, and psychopharmacological terms. Upon completion of this course, the student will be able to utilize terms and abbreviations in the Diagnostic and Statistical Manual of Mental Disorders.	10	12
2019-2020	941511	Geriatrics	This course introduces the need for making adjustments to retirement. Course topics include activities, hobbies and community agencies available for the aged. Emphasis is placed on common psychological and physical problems for the aging. Upon completion of this course, the student will have learned the many services available to the elderly and techniques to help them accept the changes in later life.	10	12
2019-2020	941512	Counseling From a Cultural Perspective	This course introduces problems facing minorities and the importance of the counselor's knowledge of, and sensitivity to, the minority client experience. Emphasis is placed on how the counselor and mental health practitioner can maximize effectiveness when working with a culturally diverse population. Upon completion of this course, the student will have an understanding of how to establish a counseling relationship with culturally diverse clients.	10	12
2019-2020	941513	Introduction: Alcohol and Drug Prevention and Abuse	This course is an introduction to the factors involved in the prevention, use, and abuse of alcohol and drugs. Emphasis is on a basic orientation to the field of alcohol and drug education and treatment. Upon completion of this course, the student will be aware of the importance of the historical, physiological, sociological, psychological and economic factors involved in substance abuse.	10	12
2019-2020	941514	Prevention Resources in Drug and Alcohol Abuse	This course will examine the roles and functions of helping professionals and paraprofessionals concerned with prevention of and solutions to alcohol and drug abuse. Emphasis will be placed on abuse as a community problem and the need for organized efforts toward prevention. Topics will include local, state and federal alcohol and drug abuse prevention programs. Upon completion of this course the student will be able to utilize available material in creating new approaches to educating the community, group, and individuals in the area of alcohol abuse. The student will also have an awareness of resources available and the need for community, regional and state cooperation in abuse prevention.	10	12
2019-2020	941515	Working with the Chemically Dependent	This course introduces the purpose, structure and techniques employed in working with the chemically dependent and other persons involved. Emphasis is placed on the role of the helper(s) as well as the professional obligation of the counselor. Upon completion of this course, the student will be familiar with classical therapy techniques as well as more current approaches.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941516	Working with the Family of the Chemically Dependent	This course provides an in-depth study of the therapeutic techniques used in working with the family of the chemically dependent with careful exploration given to the psychodynamics of family interaction. Topics include the etiology, perpetuation, and treatment of alcoholism. Emphasis is placed on family and group counseling techniques. Upon completion the student will have the ability to conduct therapeutic sessions with the family of the chemically dependent.	10	12
2019-2020	941517	Relapse Prevention	This course focuses on information needed to prevent an addiction relapse. Topics include identifying client needs and assisting in utilizing available support systems and community resources. Emphasis will be placed on procedures and strategies utilized by a counselor to identify client high risk situations, triggers, warning signs, coping skills, strengths and weaknesses. Upon completion the student will be able to work with a client to establish immediate and long term goals, treatment plans, resources, and coping skills necessary to prevent relapse.	10	12
2019-2020	941518	Alcoholism and Drug Abuse Seminar	This course provides a review of research in the field of alcoholism and drug abuse. Emphasis is placed on current trends and issues within the field. Upon completion of this course, the student will be able to discuss current research, both orally and in writing.	10	12
2019-2020	941519	Behaviorial Pathology	This course provides diagnostic criteria to identify and treat common mental health disorders. Emphasis is placed upon the use of the current diagnostic and statistical manual (DSM) as an assessment tool. Upon completion of this course the student will be able to recognize common mental health disorders and how to reference them in the DSM.	10	12
2019-2020	941520	Group Counseling Techniques	This course provides instruction on group techniques used for facilitating individuals in seeking a variety of social experiences and interests. Emphasis is placed on meeting needs such as status, security and other emotional feelings in a non-threatening atmosphere. Upon completion of this course the student will have attained leadership techniques and skills that enable them to effectively work through the group process.	10	12
2019-2020	941521	Guidance and Counseling Techniques	This course provides an introduction to the role and function of guidance and counseling with various types of clients. Emphasis is placed on the different models of behavior. Upon completion of this course the student will understand the dynamics of the counseling process and the creation of an interview climate in which effective problem solving takes place.	10	12
2019-2020	941522	Clinical Internship I	This course includes field experience in agencies, treatment centers, hospitals, institutions, outpatient clinics, etc. Emphasis is placed on "hands-on" experience under the supervision of professional staff workers. Upon completion of this course, the student will have an understanding of the role of the human services worker through an observational experience with professional staff.	10	12
2019-2020	941523	Clinical Internship II	This course includes field experience in agencies, treatment centers, hospitals, institutions, outpatient clinics, etc. Emphasis is placed on implementing previously learned theory and techniques. The student will work under the supervision of the agency's professional staff. Upon completion of this course, the student will be able to apply theories and techniques to practice in the clinical setting.	10	12
2019-2020	941524	Clinical Internship III	This course provides additional field experience in agencies, treatment centers, hospitals and other treatment facilities. Emphasis is placed on implementing previously learned theory and techniques under the supervision of the agency's professional staff. Upon completion of this course, the student will be able to apply theories and techniques to practice in the clinical setting.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941525	Introduction to Aging	This course introduces the field of aging from a biopsychosocial framework. Emphasis is placed on the field of geriatrics from the biological, psychological, and social changes in health and functioning during later years. Upon completion of this course, students will demonstrate knowledge of normal aging, developmental tasks, physical and mental health problems, and social roles.	10	12
2019-2020	941526	Mental Health Work with the Elderly	This course provides an overview of mental health issues and psychological challenges of older adults. Later life functional and organic brain disorders as well as the major DSM IV TR mental diagnoses will be addressed. This course will review a variety of treatment options and skills needed to support mental health functioning among the elderly. Upon completion of this course, students will identify and distinguish between the symptoms of organic brain pathology and mental illness, identify medications used to treat brain disorders, describe issues family members may encounter, implement skills to improve communication with caregiver/professional, and plan interventions to deal with difficult behaviors.	10	12
2019-2020	941527	Maintaining Health and Wellness in Later Life	This course addresses issues connected with mental wellness and healthy physical aging. Preventive measures (to include: nutrition, exercise, mobility and safety, addiction, sexually transmitted diseases), social support, medication use, and stress management will be discussed and demonstrated. Upon completion of this course, students will educate and assist elders with prevention techniques for healthy aging.	10	12
2019-2020	941528	Ethical, Legal, and Medical Issues in Aging	This course examines ethical, legal, and medical issues related to aging including: advanced directives, power of attorney, long-term care, financial planning, estate planning, financial concerns (social security and retirement income), health care issues (Medicaid, Medicare), public assistance and government programs, elder abuse and neglect, and death and dying. Upon completion of this course, students will be able to assist the aged with case management coordination and paperwork, public and private resources, long-term care issues, serve as an elder advocate, demonstrate collaboration with families and various government and health-care agencies, assist with development and implementation of individualized treatment plans, and assist the individual with advanced directives and end-of-life planning.	10	12
2019-2020	941601	Introduction to Medical Document Production	This course covers basic keyboarding skills using medical mustard and format. Emphasis is placed on correct techniques and development of speed and accuracy. Upon completion, the student should be able to key medical material at an acceptable speed and accuracy level.	10	12
2019-2020	941602	Medical Terminology	This course is designed for medical assistants, student nurses, and others in medically related fields. The course will focus on the more common prefixes, roots, and suffixes used to construct medical terms with these word parts to determine the meanings of new or unfamiliar terms. The student will learn a system of word building which will enable them to interpret medical terms.	10	12
2019-2020	941603	Medical Assisting Theory I	A description of anatomical descriptors and the cell introduces the student to and serves as an overview of the body's systems. The structure and function of the nervous, sensory, integumentary, muscular, skeletal, respiratory, and cardiovascular systems are taught with the diseases related to these systems presented. Upon completion, students should be able to demonstrate a basic working knowledge of these body systems.	10	12
2019-2020	941604	Medical Assisting Theory II	The structure and function of the digestive, urinary, reproduction, endocrine, and immune systems are presented. Disease processes that are related to these systems will be included. Basic concepts of reproduction, growth and development, and nutrition are taught. Upon completion, students should be able to demonstrate a basic working knowledge of these body systems.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941605	Clinical Procedures I for the Medical Assistant	This course includes instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with examination, and patient education. Upon completion, students will be able to demonstrate competence in exam room procedures.	10	12
2019-2020	941606	Medical Administrative Procedures I	This course introduces medical office administrative procedures. Topics include appointment scheduling, telephone techniques, managing the physician's schedule, handling mail, preparing and maintaining medical records, and patient orientation. Upon completion, students should be able to perform basic medical administrative skills.	10	12
2019-2020	941607	Medical Administrative Procedures II	This course introduces medical office administrative procedures not covered in Medical Administrative Procedures I. Topics include fees, credit, and collections, banking, bookkeeping Payroll, and computerized finance applications. Upon completion students should be able to manage financial aspects of medical offices.	10	12
2019-2020	941608	Basic Concepts of Interpersonal Relationships	This course is designed to assist students in health occupations to learn basic principles of human behavior. Activities for developing effective interpersonal relations are included. Exploration of self concept and the negative effect of poor self concept as they relate to one's health are presented. Upon completion, students should be able to apply these concepts to the work setting.	10	12
2019-2020	941609	Laboratory Procedures I for the Medical Assistant	This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting and processing specimens, performing selective diagnostic tests, such as a CBC, screening and follow-up of test results and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics.	10	12
2019-2020	941610	Medical Law and Ethics for the Medical Assistant	This course provides basic information related to the legal relationship of patient and physician. Topics to be covered include creation and termination of contracts, implied and informed consent, professional liability, invasion of privacy, malpractice, tort, liability, breach of contract, and the Medical Practice Act. Upon completion, students should be able to recognize ethical and legal implications of these topics as they relate to the medical assistant.	10	12
2019-2020	941611	Medical Office Communication	This course prepares the student to communicate with patients and other allied health professionals which he/she may come in contact within the medical setting. Emphasis is placed on verbal, nonverbal, written communication skills, and medical document formatting. Upon completion, students should be able to demonstrate an understanding of the skills needed for effective communication in the medical setting.	10	12
2019-2020	941612	Management of Office Emergencies	This course is designed to instruct students in handling emergencies in the medical office. Emergencies presented will include cardiovascular emergencies, diabetic emergencies, seizures, syncope, hyperthermia and hypothermia, shock, musculoskeletal emergencies, and poisoning. Upon completion, students should be able to recognize emergency situations and take appropriate actions.	10	12
2019-2020	941613	Clinical Procedures II for the Medical Assistant	This course includes instruction in vital signs and special examination procedures. Emphasis is placed on interviewing skills, appropriate triage and preparing patients for diagnostic procedures. Upon completion, students should be able to assist with special procedures.	10	12
2019-2020	941614	Laboratory Procedures II for the Medical Assistant	This course instructs the student in the fundamental theory and lab application for the medical office. Microbiology, urinalysis, serology, blood chemistry, and venipuncture theory as well as venipuncture collection procedures are discussed and performed. Upon completion, students should be able to perform basic lab tests/skills on course topics.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941615	Pharmacology for the Medical Office	This course teaches the commonly administered drugs used in the medical field including their classifications, actions, indications, contraindications, and side effects on the body. Correct demonstration of drug calculation, preparation, administration, and documentation are also taught. Upon completion, students should be able to demonstrate safe drug administration and recognize common medical classifications and their patient implications.	10	12
2019-2020	941616	Radiology for the Medical Assistant	This course will provide the student with an overview of radiography and its role in the health care delivery. Topics will include patient and medical assistant safety and protection. The student should be able to perform and process basic radiographs of the chest, abdomen, pelvis, sinus and extremities.	10	12
2019-2020	941617	Medical Office Insurance	In this course emphasis is placed on insurance procedures with advanced diagnostic and procedural coding in the outpatient facility. Study will include correct completion of insurance forms and coding. Upon completion, students should be able to demonstrate proficiency in coding for reimbursements.	10	12
2019-2020	941618	Medical Transcription	This course is designed to orient students to standard medical reports, correspondence, and related documents transcribed in a medical environment through classroom instruction. Emphasis is on transcribing medical records from dictated recordings. Learn/maintain standards of ethical/professional conduct. Upon completion, the student should be able to accurately transcribe medical documents from dictated recordings.	10	12
2019-2020	941619	Medical Transcription I	This course introduces dictating equipment and typical medical dictation. Emphasis is placed on correct punctuation, capitalization, and spelling. Upon completion, students should be able to transcribe physician's dictation.	10	12
2019-2020	941620	Medical Transcription II	This course provides the student additional skills required to competently transcribe medical dictation. Emphasis is placed on efficient use of equipment, references, editing, proofreading, and various formats. Upon completion, students should be able to demonstrate competence in transcribing physician's dictation.	10	12
2019-2020	941621	Medical Assistant Review Course	This course includes a general review of administrative and clinical functions performed in a medical office. The course will assist the student or graduate in preparing for national credentialing examination.	10	12
2019-2020	941622	Medical Assisting Practicum	This course is designed to provide the opportunity to apply clinical, laboratory, and administrative skills in a physician's office, clinic or outpatient facility. The student will gain experience in applying knowledge learned in the classroom in enhancing competence, in strengthening professional communications and interactions. Upon completion, students should be able to perform as an entry-level Medical Assistant. Content of this course is aligned with standards and guidelines from the American Association of Medical Assisting.	10	12
2019-2020	941623	Phlebotomy Preceptorship	This course is designed to provide the opportunity to apply phlebotomy techniques in the physician's clinic and hospital setting. Emphasis is placed on training individuals to properly collect and handle blood specimens for laboratory testing and to interact with health care personnel, patients, and the general public. Upon completion, students should be prepared for entry-level phlebotomy and to sit for the Phlebotomy Technician Examination (ASCP).	10	12
2019-2020	941624	Transcription Preceptorship	This course is designed to provide the opportunity to apply transcription skills to the physician's office or the hospital. The student will gain experience in applying knowledge learned in transcription classroom to medical office dictation. Upon completion, students should be able to demonstrate entry-level transcription skills.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941701	Basic Medical Transcription	This course introduces transcription equipment and typical medical dictation. Emphasis is placed on efficient use of equipment, use of reference materials, correct punctuation, capitalization, spelling, editing, proofreading, and report formatting. Upon completion, students should be able to demonstrate competence in transcribing physician's dictation.	10	12
2019-2020	941702	Advanced Medical Transcription	This course involves word processing of highly complex medical reports common to acute care and other health care facilities. Emphasis is placed on speed and accuracy of medical transcription. Upon completion, students should be able to demonstrate speed and competence in transcribing physician's dictation.	10	12
2019-2020	941703	Clinical Medical Transcription	This course includes laboratory or on-site medical transcription practice. This course allows the student to demonstrate advanced competencies acquired in previous medical transcription course work. Student competency includes demonstrated medical transcription proficiency.	10	12
2019-2020	941704	Expanded Medical Transcription	This course provides students with the opportunity to practice medical transcription skills with actual reports from multiple practice sites. The course requires students to demonstrate advanced competencies acquired in previous medical transcription courses. Upon completion, the student will demonstrate medical transcription proficiency in many different medical specialty areas.	10	12
2019-2020	941705	Introduction to Computers in Transcription	This course is a survey of computer usage in transcription with emphasis on software applications and data security and integrity in health information systems. Course instruction focuses on concepts of computer usage in transcription with experience using various software packages. Upon completion, students should be able to demonstrate competence in the use of various transcription specific software applications.	10	12
2019-2020	941801	Long Term Care Nursing Assistant	This course fulfills the seventy-five (75) hour Omnibus Budget Reconciliation Act (OBRA) requirements for training of long-term care nursing assistants in preparation for certification through competency evaluation. Emphasis is placed on the development of the knowledge, attitudes, and skills required of the long-term care nursing assistant. Upon completion of this course, the student should demonstrate satisfactory performance on written examinations and clinical skills.	10	12
2019-2020	941802	Fundamentals of Long-term Care	This course provides students with the necessary theory and laboratory experiences for the development of skills required to qualify as a long-term care Nursing Assistant. Emphasis is placed on the acquisition of skills in communication, observation, safety, mobility/body mechanics, personal and restorative care, and infection control necessary to care for patients and clients of all ages. Upon completion of this course, students will be able to apply concepts and skills in areas required by the Omnibus budget Reconciliation Act (OBRA).	10	12
2019-2020	941803	Fundamentals of Long-term Care Clinicals	This course is designed for students to apply knowledge and skills needed to perform basic nursing care safely and efficiently in various supervised health care setting. Emphasis is placed on safety, therapeutic communication, infection control, critical thinking, and proper documentation. Upon completion of the course, students will demonstrate beginning competency in delivery of care to patients and clients in various health care settings.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941804	Fundamentals of Home Health Care	This course provides students with the necessary theory and laboratory experiences for the development of skills required to qualify as a Home Health Aide. Emphasis is placed on the acquisition of skills in communication, observation, mobility, personal care, and infection control necessary to care for the home-bound client of all ages. Upon completion of this course, student will be able to apply concepts and skills in areas required by the Omnibus budget Reconciliation Act (OBRA) and the National Association of Home Care. (Laboratory required)	10	12
2019-2020	941805	Home Health Clinical Aide	This course is designed for student to apply knowledge and skills needed to perform basic nursing care safely and efficiently in a supervised home health care clinical setting. Emphasis is placed on application of knowledge, attitudes, and skills needed appropriate for the home health care aide (Clinical is required). Upon completion students will demonstrate beginning competency in care of the client in the home care setting.	10	12
2019-2020	941806	CPR Basic First Aid	This course is designed to help the student feel more confident and act appropriately in an emergency situation. Emphasis is placed on providing the student with theoretical concepts to develop skills in basic first aid and cardiopulmonary resuscitation. Upon successful course completion, which includes specific competencies in basic life support the student will receive appropriate course completion documentation.	10	12
2019-2020	941807	Fundamentals of Nursing Assistant/Home Health Aide	This course provides the student with the necessary theory and laboratory experiences for the development of skills required to qualify as a long-term care Nursing Assistant/Home Health Aide. Emphasis is placed on the acquisition of skills in communication, observation, safety, mobility/body mechanics, personal and restorative care, and infection control necessary to care for patients and clients of all ages. Upon completion of this course, the student will be able to apply concepts and skills in areas required by the Omnibus Budget Reconciliation Act (OBRA) and the National Association of Home Care.	10	12
2019-2020	941808	Fundamentals of Nursing Assistant/Home Health Aide	This course is designed for students to apply knowledge and skills needed to perform basic nursing care safely and efficiently in various supervised health care settings. Emphasis is placed on safety, therapeutic communication, infection control, critical thinking, and proper documentation. Upon completion of this course, the student will demonstrate beginning competency in the delivery of care to patients and clients in various health care settings.	10	12
2019-2020	941809	Basic Electrocardiogram Interpretation	This course provides students with the basic knowledge to interpret electrocardiograms. Students learn to identify the different categories of dysrhythmias on an EKG strip/monitor and acquire the technical skills to perform a 12 lead EKG in the clinical setting . An overview of the electrical conduction of the heart and cardiac circulation is included to assist students to identify common and life threatening dysrhythmias. This course includes both class and lab. 15 hours of lecture 30 hours of lab.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	941810	Fundamentals of Nursing	This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and theories basic to the art and science of nursing. The role of the nurse as a member of the healthcare team is emphasized. Students are introduced to the concepts of client needs, safety, communication, teaching/learning, critical thinking, ethical-legal, cultural diversity, nursing history, and the program's philosophy of nursing. Additionally, this course introduces psychomotor nursing skills needed to assist individuals in meeting basic human needs. Skills necessary for maintaining microbial, physical, and psychological safety are introduced along with skills needed in therapeutic interventions. At the conclusion of this course students demonstrate competency in performing basic nursing skills for individuals with common health alterations.	10	12
2019-2020	941901	BODY STRUCTURE & FUNCTIONS	This course provides students with basic knowledge of the normal structure and function of the human body. Major content focuses on the interrelations among the organ systems and the relationship of each organ system to homeostasis. Medical terminology is integrated throughout course content. Upon completion of this course, students will be able to demonstrate basic knowledge of body systems, their interrelationships and associated medical terminology.	10	12
2019-2020	942101	Introduction to Pharmacy	This course introduces the student to the role of the Pharmacy Technician in providing patient care services. Topics include pharmaceutical terms, abbreviations and symbols used in the prescribing and charting of medication, dosage forms, routes of administration of drugs, patient variables with regard to drug therapy, and equipment and systems used in parenteral administration of drugs. Upon completion, students should be able to explain the role of pharmacy technician assistants, read and interpret drug orders, describe quality assurance, and utilize pharmacy references.	10	12
2019-2020	942102	Pharmacology I	This course is an introduction to drug categories and usage as well as side effects of drugs. Also, prescription terminology and the top two hundred drugs, by category and name (trade and generic), are covered. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names.	10	12
2019-2020	942103	Pharmacology II	This course is a continuation of PHM 102. Additional drug groups are introduced, and their uses, side effects, and mechanisms of action are discussed. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names.	10	12
2019-2020	942104	Drugs and Health	This course emphasizes rational use of prescription and non-prescription medications. Topics include how to use licit drugs and chemical substances appropriately; development of drugs; economic factors which impact on health care; drugs and pregnancy, children, and the elderly; and the use of self-help medications for a variety of conditions. Upon completion, students should be able to perform basic supervised dispensing techniques in a variety of pharmacy settings.	10	12
2019-2020	942105	Billings and Computers	This course introduces students to the design, control, and planning of electronic information systems used to implement medication orders, to manage the medication distribution system, and to handle the billing for medications. Upon completion, students should be able to prepare patient charges, distribute medications, and efficiently operate computers.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	942106	Institutional Pharmacy	This course covers the development of hospitals, their place in society, and the importance and place of pharmacy in hospitals and nursing homes. Topics covered include the organization, staffing, services, legal requirements, development of institutional pharmacy departments, and interdepartmental relationships to provide comprehensive pharmacy services. Upon completion, students should be able to demonstrate a basic knowledge of the topic discussed.	10	12
2019-2020	942107	Pharmacy Practice	This course considers all aspects of pharmacy, from retail, in-patient, and ordering, to manufacturing. Emphasis is on those aspects of pharmacy that hospital technicians would be required to perform. Topics covered include: theory and practice behind the dispensing of drugs to hospitals in-patients and ambulatory patients; demonstrating accuracy in preparing and dispensing of drugs or simulations; and aseptic technique and equipment used in a laboratory setting. Upon completion, students should be able to demonstrate proficiency in performing these tasks.	10	12
2019-2020	942108	Pharmacy Technician Practicum I	This course provides the student's first exposure to pharmacies and hospitals. Lecture and demonstrations in laboratory settings are utilized to acquaint the student with standard operating procedures at participating facilities. Both retail and hospital pharmacy situations and job skills are addressed. Upon completion, students should be able to apply technical skills and organization knowledge in support of pharmacists in these settings.	10	12
2019-2020	942109	Pharmacy Technician Practicum II	This course continues PHM 211 and goes one step further to take the student out of the theoretical laboratory and into the actual job experience. Additional experience under the supervision of pharmacists will demonstrate accuracy through clinical evaluation in the hospital and retail pharmacy settings in pouring, compounding, packaging, and labeling and dispensing of drugs to patients. Upon completion, students should be able to provide technical assistance and support to retail and hospital pharmacists.	10	12
2019-2020	942201	Introduction to Physical Therapy	This course is an introduction to the field of physical therapy as a career choice. Emphasis is on the role of the PT and PTA, educational requirements, scope of practice and subspecialty areas such as pediatrics, geriatrics, sports. Upon completion of the course, the student should have a general understanding of the role of physical therapy in the health care environment.	10	12
2019-2020	942203	Medical Terminology	This course is an introduction to the language of medicine with emphasis on its use in physical therapy. Emphasis is on terminology of anatomical systems, root forms, prefixes and suffixes, surgery, symptomatology, psychiatric terms, pharmaceutical terms, anesthetic terms, and abbreviation. Upon completion, the student should be able to recognize this terminology as it is used in physical therapy.	10	12
2019-2020	942204	Physical Therapy Issues and Trends	This is an introductory course to the trends and issues in physical therapy. Emphasis is placed on areas such as history, practice issues, psychosocial aspects of illness and cultural diversity. Upon completion, the student should be able to discuss trends and issues relevant to physical therapy.	10	12
2019-2020	942205	PTA Communication Skills	This course is the study of verbal and nonverbal communication and documentation in health care. Emphasis will be placed on terminology, format, computer usage, reimbursement, interpersonal communication, and legal issues. Upon completion, student should be able to discuss and demonstrate communication methods for achieving effective interaction with patients, families, the public and other health care providers.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	942301	Vet Tech Clinics I	This online course provides students with required clinical tasks to be completed in an approved clinical site in the areas of: surgery, restraint, instrumentation, equipment, surgical and medical care, and basic clinical procedures in various animal species. Upon course completion, the student should be able to understand the responsibilities of a veterinary technician and begin the development of fundamental skills.	10	12
2019-2020	942302	Introduction to Veterinary Technology	A series of online lectures and required clinical tasks are designed to introduce the student to hospital fundamentals. Topics include history and physical examination, breeds of animals, small animal parasitology, diagnostic and surgical procedures, equine and food animal nursing, exotic and avian nursing, sanitation, medical vocabulary, The Alabama Veterinary Practice Act, ethics, jurisprudence, and hospital management. Upon course completion, students should be able to perform history and physical examinations, collect samples, administer medications, perform fecal analysis, know different breeds of animals, and understand parasite life cycles, OSHA regulations and safety procedures, and the technician's role in veterinary medicine.	10	12
2019-2020	942303	Clinical Anatomy and Physiology of Animals	This online course is designed specifically for students in the two-year veterinary technology program and covers the fundamentals of anatomy and physiology of mammals, avians, and reptiles. Topics include the skeletal system, muscular system, respiratory system, digestive system, circulatory system, urinary system, the eye, the ear, female reproductive system, pregnancy, parturition, lactation, male reproductive system, neurology, and the endocrine system; and online laboratory dissection. Upon course completion, the student should be able to identify major tissues and organs, understand the physiology of organs and organ systems, and understand the physiological basis for the development of clinical laboratory testing.	10	12
2019-2020	942304	Vet Tech Clinics II	This online course provides students with required clinical tasks to be completed in an approved clinical site in the areas of surgery, and clinical medicine of various animal species. Required tasks will include surgical and nursing care, and clinical medicine. Upon course completion, those skills learned from the previous semester should be reinforced and the student should have learned some new technical procedures.	10	12
2019-2020	942305	Veterinary Technology Emergencies and First Aid	This online course is designed to teach the basic principles in emergency treatment of various animal species and incorporates actual management in a clinical environment. Topics include emergency information, equipment and drugs, initial examination, evaluation and treatment, shock, cardiac arrest, respiratory emergencies, fluid therapy, blood collection and transfusion, emergency treatment of specific conditions, poisonings, and large animal emergencies. Upon course completion, the student should be able to administer first aid to animals needing immediate attention.	10	12
2019-2020	942306	Clinical Procedures and Pathology	This online course introduces students to common laboratory techniques and diagnostic methods. Students will begin developing laboratory skills with an emphasis in the areas of urology and hematology. Topics of study include the basic laboratory, hematology, bone marrow and blood cytology, urinalysis, clinical chemistry, function tests of the liver, kidney, pancreas, and thyroid, diagnostic cytology, and post mortem examinations; required clinical tasks will be completed in an approved clinical site. The study of medical vocabulary is continued. Upon course completion, the student should be able to understand the physiological basis used for diagnostic testing and to perform the laboratory procedures outlined in the course material.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	942307	Animal Diseases and Immunology	This online course is designed to acquaint the student with the importance and transmissibility of common animal diseases and with immunological principles involved in prophylaxis, treatment and recovery. Emphasis is placed on those aspects of the immune response that affect immunization and diagnosis and to familiarize the student with the common infectious diseases and immunization schedules of domestic animals. Upon course completion, the student should be able to communicate with clients regarding preventable diseases and zoonotic implications and should also be able to assist with formulation of immunization schedules for various species of animals.	10	12
2019-2020	942308	Vet Tech Clinics III	This online course provides students with required clinical tasks to be completed in an approved clinical site in the areas of surgery, dentistry, and clinical medicine in various animal species. Topics include surgical and nursing care, dentistry, and clinical medicine. Upon course completion, those skills learned from the previous semester should be reinforced and the student should have learned new technical procedures.	10	12
2019-2020	942310	Animal Pharmacology and Toxicology	This online course is designed to give the student exposure to veterinary drugs and teach the importance of exact calculations, proper administration, and the danger and recognition of reactions and over dosage in various animal species. Topics include introduction and principles of pharmacology; antimicrobials; disinfectants; drugs affecting the nervous, respiratory, cardiovascular, and gastrointestinal systems; anti-inflammatories; antiparasitics; euthanasia solutions; and pharmacy and inventory control. Upon course completion, the student should be able to properly calculate drug dosages; fill, label, and dispense medications; recognize the various classifications of drugs; and have knowledge regarding the dangers and toxicosis of various medications.	10	12
2019-2020	942311	Vet Microbiology and Parasitology	This online course is designed to provide students with practical knowledge of common pathogens in various animal species. Students will learn how to select and collect samples and data for laboratory processing or submission to another laboratory. Topics include identification of causative agents of diseases; classification and nomenclature of bacteria; morphology and physiology of bacteria; bacteria and disease; laboratory procedures in bacteriology; gram positive and gram negative bacteria; spiral and curved bacteria; actinomycetes organisms; fungi; virology; review of common small animal, exotic animal, and avian parasites, equine and food animal parasitology. Upon course completion, the student should be able to properly collect and handle bacteriological specimens, identify organisms by gram staining, and have a basic knowledge of large animal parasite life cycles, as well as methods of identification of the commonly encountered parasites.	10	12
2019-2020	942312	Vet Tech Clinics IV	This online course provides students with required clinical tasks to be completed in an approved clinical site in the areas of surgical and nursing care, anesthesia, and clinical pathology. Topics include surgical and medical care, laboratory procedures in various animal species. Upon course completion, the student should be proficient in those skills reinforced from previous semesters.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	942313	Animal Nutrition and Laboratory Animals	This online course is designed to acquaint the student with the basic concepts of animal nutrition of various animal species and laboratory animal maintenance, husbandry, and handling. Topics include canine dietetics, feline dietetics, nutritional management of small animal disease, feeding the neonate, nutritional management of the convalescent animal, fundamentals of nutrition, principles of disease prevention, housing and equipment, job opportunities, biology of common lab animals, basic principles of research and necessity for use of lab animals, techniques, and zoonosis; required clinical tasks will be completed in an approved clinical site. Upon course completion, the student should be able to formulate a nutritional plan for the healthy and sick animal. The student should be able to handle, care for, and collect diagnostic samples and have basic knowledge of the diseases of the commonly used laboratory animals.	10	12
2019-2020	942314	Seminar In Veterinary Technology	This elective course is designed to review critical topics covered during the two years of the veterinary technology curriculum along with review questions and tests associated with these topics. Topics include anatomy and physiology, anesthesiology, animal care, dentistry, emergency & first aid, hospital management, laboratory animals, laboratory procedures, medical calculations, medical nursing, medical terminology, pharmacology, radiology, and surgical nursing. Upon course completion, the student should be prepared for the Veterinary Technician National Exam.	10	12
2019-2020	942315	Vet Tech Large Animal Clinics	This course provides students with required clinical tasks to be completed in an approved clinical site in the areas of large animals. Topics include: restraint, bandaging, venipunctures, radiography, patient care, medication administration. Upon course completion, the student should be able to have a working knowledge of fundamental large animal skills.	10	12
2019-2020	942316	Vet Tech Preceptorship	The veterinary technology preceptorship consists of one academic semester of work experience in an approved clinical site. A student evaluation report from the clinical supervisor will be necessary for the course completion and also for meeting requirements for graduation. The clinical practice will include clinical instruction in all areas of a veterinary practice as deemed necessary by the clinical supervisor. Upon course completion, the student should be able to apply all procedures learned in the veterinarian technology program to the practice environment.	10	12
2019-2020	943101	Polysomnographic Technology III	This course studies the etiology and treatment of the sleep/wake cycle and related disorders in the context of the interrelationships of various systems. Topics include overview of anatomy and physiology, respiratory function, cardiac function, neurologic function, sleep scoring and event recognition as it relates to sleep. Upon completion, the student will be able to understand the basic function of these bodily systems in their relation to the sleep/wake cycle. Prerequisites: None	10	12
2019-2020	943102	Polysomnographic Technology IV	This course provides an introduction to the diagnostic categories of the sleep/wake disorders. It also provides an in depth look at the guidelines for polysomnographic procedures. Topics include PAP titration guidelines, oxygen administration guidelines, MSLT/MWT guidelines, hypersomnias, insomnias, parasomnias, seizure disorders, circadian rhythm disorders and an introduction to the pharmacological interventions available to treat the various sleep disorders. Upon completion, the student will be able to recognize the manifestations of sleep disorders, and classify and state the appropriate treatment for those disorders. Prerequisites: None	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943103	PSG Clinical Practice II	In this course students will participate in directed practice in an affiliated health care facility and/or sleep center. The student will gain experience in patient assessment, recording techniques, and test scoring. Upon completion, the student will be able to successfully admit a patient to the sleep lab, appropriately prepare the patient for a sleep study, monitor the patient during the sleep study and discharge a patient after the study. Prerequisites: None	10	12
2019-2020	943104	INTRO TO POLYSOMNOGRAPHY	This course provides an introduction and orientation to a health career in the field of polysomnography, including terminology, specific duties, roles of the sleep technologist, credentialing and licensure requirements, work setting/conditions, career ladder opportunities, HIPAA, patient confidentiality, professional behavior, professional practice, patient interaction, documentation, charting, patient flow process and patient assessment items, and safety issues. An overview of standards of practice of clinical polysomnography with emphasis on technique, instrumentation, terminology of polysomnographic practices, and recording/monitoring techniques utilized will be presented. Upon completion, the student will have a basic understanding of the polysomnographic field of practice.	10	12
2019-2020	943105	POLYSOMNOGRAPHIC TECHNOLOGY I	This course is designed to provide entry-level students with both didactic and laboratory training in polysomnographic technology. It presents medical terminology, history of sleep medicine, instrumentation setup and calibration, recording and monitoring techniques, scoring/reporting, basic electrical concepts, and technical and digital specifications. Upon completion, the student will have an understanding of the appropriate types of diagnostic instruments necessary for quality polysomnographic assessment. Lab sessions will provide practical experience in the skills required of an entry-level polysomnographic technologist.	10	12
2019-2020	943106	POLYSOMNOGRAPHIC TECHNOLOGY II	This course provides training in more advanced aspects of polysomnographic technology. Students become familiar with the skills and knowledge needed to obtain and evaluate high quality sleep recordings. It covers all the aspects of sleep scoring and event recognition, recording and monitoring techniques, documentation, professional issues, therapeutic interventions, and patient-technologist interactions related to polysomnographic technology.	10	12
2019-2020	943107	PSG CLINICAL PRACTICE I	This course provides clinical training in the basics of polysomnographic technology. It familiarizes students with instrumentation setup and calibration, recording and monitoring techniques, documentation, professional issues, and patient-technologist interactions related to polysomnographic technology. It provides patient contact in a sleep lab and presents opportunity to observe, perform (under supervision) and evaluate sleep studies.	10	12
2019-2020	943108	Introduction to CAD for CIM	Provides an introduction of Computer-Aided Drafting (CAD) techniques and terminology. Concepts to include CAD software, and skills necessary to perform the basic computer aided drafting functions. Related lab projects are developed from CAD to reinforce knowledge of various shop drawing concepts, software commands, and file management that will be used in the Computer Integrated Manufacturing (CIM). The course will provide an overview of CIM which will include the study of manufacturing planning, integration, and implementation of automation. This course explores manufacturing history, individual processes, systems, and careers. In addition to technical concepts, the course incorporates finance, ethics, and engineering design.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943109	Intro to 3D Modeling	This course introduces basic 3Dimensional (3D) modeling functions and techniques and the parametric concept. “Hands-on” class structure utilizes various 3D software applications. Topics include terminology, hardware, basic 3D modeling involving sketching and 3D feature creations, feature application and operating system functions. Students will be able to generate basic 3D parts and associated working drawings in soft and hard copy format.	10	12
2019-2020	943110	Blueprint Reading	This course is designed to provide students with a comprehensive understanding of blueprint reading. Topics include identifying types of lines and symbols used in mechanical drawings; recognition and interpretation of various types of views, tolerance and dimensions	10	12
2019-2020	943111	Manufacturing Safety Practices	This course is an introduction to general issues, concepts, procedures, hazards, and safety standards found in an industrial environment. This safety course is to make technicians aware of safety issues associated with their changing work environment and attempt to eliminate industrial accidents. This course will offer credentialing for NCCER Core and OSHA 10 hour.	10	12
2019-2020	943112	Orientation to Additive Manufacturing	Introduction to basics of manufacturing, including personal protective equipment (PPE), safety practices, general lab procedures and the proper use of equipment to perform basic manufacturing processes such as drilling and cutting on commonly used materials, including metals and composites. Topics include Additive Manufacturing fundamentals, history, and terminology. Additive Manufacturing systems types, advantages vs. disadvantages of various Additive Manufacturing technologies will be discussed.	10	12
2019-2020	943113	Design Innovation	This course introduces students to concepts that enable them to think like a designer when approaching architectural, engineering and additive manufacturing tasks. Emphasis will be placed on design and problem-solving skills when working independently, or with a team. This course focuses on giving students exposure to creativity, problem solving skills, and the design processes in which a design- centered approached will be employed to develop innovated solutions. This course includes components to develop basic skills to express innovated solutions to design problems with the application of projects, drawings, as well as oral and written communication skills. Students will be introduced to related computer based tools used by architect, engineers, and design manufacturers. (e.g., spreadsheet, word processing, presentation software, and Internet).	10	12
2019-2020	943114	Introduction to Catia	Introduction to parametric, three-dimensional modeling using CATIA (v5 or 6). Focus on how to navigate within this software, how to create three-dimensional solid models using industry best practices, and then how to create and manipulate assemblies made from these parts. Learn the process of designing models with CATIA from conceptual sketching, through to solid modeling, assembly design, and drawing production. Upon completion of this course you will have acquired the skills to confidently work with CATIA. Gain an understanding of the parametric design philosophy of CATIA in this extensive hands-on course. It is expected that all new users of CATIA will require this course.	10	12
2019-2020	943115	Introduction to 3D Studio Max	Students will explore and implement the principles of modeling and animation through projects that emphasize analyzing real-world movement, adapting movement for the animation medium, and creating the illusion of life while applying animation principles.	10	12
2019-2020	943116	Introduction to Materials and Finishes	This course is a basic introduction into Materials and Finishes and their selection process. At the end of the course, the student should have a basic understanding of how to select a material and finish for a particular design criteria, and how their decision making integrates with other departments for consideration.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943117	Introduction to Injection Molding	Students learn the fundamentals of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify common part defects such as short shots, flash, warp, surface defects, color changes and shrinkage. Students learn the properties of commonly used molding materials. This course is also taught as MTT 110 and AUT 145.	10	12
2019-2020	943118	Introduction to Injection Molding Lab	Students learn to safely operate an injection molding machine. Students learn to properly startup, set machine controls and shutdown a molding machine.	10	12
2019-2020	943119	Injection Mold Design	Students learn to identify the components of an injection mold such as mold base, sprue bushing, runner system, gates, vents, cavities, inserts and ejection system. Students learn the purpose of each component of an injection mold. Students learn common materials used to build an injection mold.	10	12
2019-2020	943120	Injection Mold Design Lab	Students demonstrate proper and safe techniques to build components of an injection mold such as sprue bushings, runner systems, gates, vents, cavities, inserts and ejection systems.	10	12
2019-2020	943121	Material Properties	This class identifies the major categories of materials used in manufacturing and compares their general properties to aid in proper selection of material for product functions. Students will perform an analysis of the behavior and characteristics the materials used in manufacturing including polymers, metals, ceramics and composites: their structure, and physical and mechanical properties. Additionally students will perform heat treatment of ferrous and nonferrous metals; and test for hardness, tensile and strength. Technical writing will be introduced. Upon completion of this class students will be able to understand and select proper materials for Additive Manufacturing.	10	12
2019-2020	943122	Additive Manufacturing Production Techniques	In this class student will utilize the various Additive Manufacturing (AM) design software to learn different techniques of building additively. Student will engaged in using the software and build theory to discover best build for the part. Tool paths, angles, rotation and build support will be discussed. Additive process will include polymers and powders. Cost and build time will be calculated on the different build parameters.	10	12
2019-2020	943123	Additive Manufacturing Processes-- Polymers	This course focuses on basic principles and methodology of different types of polymers and processes created with the Additive Manufacturing (AM) process. Comparison of selecting the best type of polymer for production will be discussed. Students receive proper instruction on safety operations, set-up and routine maintenance and production on the AM systems. Students learn the various types of polymer AM systems; ie. Fused Deposition Manufacturing (FDM), PolyJet, and SLA. Students also learn the software used for each AM system. Upon completion, students will be able to describe the different types of polymers available for the AM process including, but not limited to ABS, PC, PC-ABS, ULT, PPSF, and Nylon and explain what the benefits are of basic AM. They should be able to demonstrate the how to take a "part" from start to finish on the AM system and be able to select the best process for the type of product being produced.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943124	Additive Manufacturing Processes--Metals	This course focuses on the basic principles and methodology of different types of metal powders and processes created with the Additive Manufacturing (AM) process. Students receive instruction on safety operations, set-up and routine maintenance and production of the AM Systems. Students learn metal powder based AM with the use of the Direct Metal Laser Sintering (DMLS) system. Students also learn various design software programs used for a metal powder system. Upon completion, students will be able to describe the different types of metal powders including, but not limited to aluminum, stainless steel, cobalt, titanium, and nickel and explain what the benefits are of basic AM. They should be able to demonstrate how to take a “part” from start to finish on the AM system and be able to select the best process for the type of product being produced.	10	12
2019-2020	943125	Advanced Injection Molding	Students learn advanced applications in injection molding, including fill time, cycle time, melt temperature, part size and weight, injection pressure and clamp pressure. Students learn solutions for common part defects such as short shots, flash, warp, surface defects, color changes and shrinkage.	10	12
2019-2020	943126	Advanced Injection Molding Lab	Students demonstrate advanced techniques in injection molding by adjusting machine settings to fix common molding problems.	10	12
2019-2020	943127	Metal Materials Post Processing	This course is intended as an intensive experience in processing techniques used for post processing metals. Instruction in the safe use of all tools and equipment will be emphasized. Students will experiment with various techniques in the post processing of metal parts. Techniques will included; grinding, wire EDM cutting, drilling, shot peening, and heat treatment. Students will use LEAN manufacturing to observe proper lab procedures. Upon completion of this class students will be able to properly and safely perform proper post processing techniques on additive manufactures metal parts, provide surface finish and any additional feature each component requires. Students will be able to write a technical report on test results and describe LEAN manufacturing as applied to an additive manufacturing lab.	10	12
2019-2020	943128	Intermediate Catia	Explores the techniques for using CATIA v5/6 to produce working level of engineering drawings. Detail and assembly drawings are created with attention focused on proper views, text, dimensions, tolerances, bills of material, borders and title blocks. Weldments, flat patterns and other special practices are also examined.	10	12
2019-2020	943129	Additive Manufacturing Test Prep	This test prep class will review concepts of Additive Manufacturing (AM) taught in this course of study. We will review instructions on Additive Manufacturing principles and review concepts will be supported by observation of Additive Manufacturing applications in action. Student will participate in practice exercises that incorporate concepts and applications from the lecture and lab of their previous coursework. The SME Additive Manufacturing Certificate serves as verifiable proof of your foundational knowledge by successfully completing an exam.	10	12
2019-2020	943130	Application of Design Capstone	This is a project- or research-oriented course that emphasizes synthesis through collaborative learning. Students integrate and apply previous knowledge, skills, and experiences they learned in their major and other academic courses to complete individual & team-based projects. AM student will be required to serve as interns in the AM Lab. Architectural and Engineer students will serve as interns doing live work, campus project or in an office. The course emphasizes communication skills, critical thinking, problem solving, computer literacy, and teaming skills. NOTE: This course is usually taken during the last 2 semesters of the program of study.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943131	Applied Catia	This is a project oriented course that emphasizes use of CATIA in a work place setting. Student will be provided mentorship from individuals using CATIA in a variety of applications. NOTE: Students taking this course before the second semester of the program of study must have instructor permission.	10	12
2019-2020	943132	Reverse Engineering	During this course students learn the process of quality control inspection of parts and uses of reverse engineering processes employing 3D printing, scanning, and Coordinate Measuring Machine (CMM technologies). Emphasis is on using applicable software to produce 3D models or converting scanned images into 3D models; using CMM for parts inspection and generating points cloud for 3D modeling; interfacing generated models with reverse engineering methods.	10	12
2019-2020	943133	Business and Financial Management	Students study the global economics and financial issues that impact the energy industry. They learn how these impacts affect what strategies energy companies use to secure reliable sources of operating funds and capital investment to improve existing facilities or develop new ones, including but not limited to generating plants, transmission and distribution systems, coal, petroleum, etc. Students explore how fluctuations in regional, national, and world energy markets directly impact day-to-day operations	10	12
2019-2020	943134	Project Management in the Energy Industry	This course introduces the student to project Management as it pertains to the energy industry. Students will study the planning, scheduling and controlling of projects, both large and small.	10	12
2019-2020	943135	Professional Development & Business Communication	The core of this class is student Industry mentoring. Industry leaders are brought into the class room for discussions surrounding Industrial Energy activities on the horizon. Students will be required to present a project paper to Industry leaders at the end of the semester.	10	12
2019-2020	943136	Industrial Energy Data Collection, Analysis and Reporting	Students study the different types of energy consumption, process metering devises, how to read, how to gather data, how to chart data, performance trends, how to present the data.	10	12
2019-2020	943137	Power Load Balancing and Advanced Manufacturing/Energy Management	This is a study of how to optimize an industrial power system—whether for an airport, a mill, a factory or a smelter. This course is focused on more than the traditional utility concept of keeping the lights on. In today’s competitive environment much more data is needed. This class is a study of the details: quality, flow, consistency items that impact machinery, schedule, production and, often, the profitability of the business	10	12
2019-2020	943138	Energy Production Efficiency	This is a study of Energy Production Efficiency. How to efficiently operate and manage power production processes. Boilers and steam generation, combustion control, heat recovery, turbines etc.	10	12
2019-2020	943139	Distributed Energy and Storage	This class is a study in the increase demands on the nation’s electrical power systems and incidences of electricity shortages, power quality problems, rolling blackouts, and electricity price spikes. The student will study how utility customers seek other sources of high-quality, reliable electricity. Distributed Energy resources (DER), small-scale power generation sources located close to where electricity is used (e.g. a home or business); will be studied.	10	12
2019-2020	943140	Industrial Energy Sources & Sustainability	This class is a study of the different Industrial Energy sources and the ethical and Government regulations associated with these sources of energy.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943141	Industrial Quality	Contemporary concepts and methods for quality and productivity design and improvement; philosophies of Deming, Tachuai, and others leading the quality management and engineering movement; Shewart's methods for statistical process control, process capability analysis, statistical methods for tolerance assessment, process control methods employing attribute data, design of experiments, concepts and methods.	10	12
2019-2020	943142	Industrial Water Usage and Disposal	A study of Industrial water usage in the United States, methods for water conservation and water efficiency improvements. A study of Industrial processes that consume a large amount of water. Water reclaiming and disposal methods	10	12
2019-2020	943143	Advanced Manufacturing Processes/New and Emerging Energy Technologies	Students in this course explore the latest in energy technologies and how they are designed to increase efficiencies, protect the environment and streamline processes. Students discover how some of the new technologies have been around for quite some time and the reasons they are capturing new attention	10	12
2019-2020	943144	General Program Review and Comprehensive Testing	This course is a combination self-directed program review and comprehensive examination covering all materials in the general courses. Students successfully completing the course will be certified as eligible to take the Federal Aviation Administration (FAA) General written examination.	10	12
2019-2020	943145	Car Braking, Steering, and Suspension Systems	This course provides instruction in automotive technology or auto mechanics. Emphasis is placed on the practical application maintenance and repair of brakes, steering, and suspensions systems.	10	12
2019-2020	943146	Manufacturing Systems, Methods, and Processes	This course provides an introduction to the common types of Manufacturing Systems and Manufacturing Support Systems, Production Operations, Facilities, Product/Production Relationships, while highlighting the philosophy of Lean Manufacturing and Just-in-Time (JIT) Manufacturing. This includes an introduction to Production Performance indicators including Safety, Quality, Delivery, Cost, and Morale (SQCDM). Automated techniques covering robotics, automated inspection, material handling, and logistics/ID systems will be examined. Common types of Manufacturing Systems (single station, assembly lines, automated production lines, automated assembly lines, cellular, and flexible manufacturing) will be studied. Coverage of Manufacturing Support Systems will include an overview of product design, process planning, and production planning/control. Students will be prepared to analyze production processes resulting in operational standards, including cycle time analysis to meet tact times.	10	12
2019-2020	943147	Injection Mold Setter Skills	This course is designed to teach students basic mold setter skills. They will learn the fundamentals of injection molding operations, including molding terminology, machine part identification, operating safety, machine controls and machine startup and shutdown. Students are taught to identify common part defects such as non-fill, burn marks, warpage, discoloration, weld lines, and flash. At the end of this course students should be able to safely work as a mold setter.	10	12
2019-2020	943148	Introductory Computer Skills II	This course is designed to focus on the development of computer skills suited to the needs of students in non-degree occupational programs. The course will generally use software packages appropriate to occupational programs and may include such topics as word processing, database, basic graphics, spreadsheets or other features typically needed in the field. Upon completion, the student will be able to demonstrate proficiency by the completion of appropriate assignments and occupation-specific applications.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943149	Python Programming	This course is an introduction to the Python programming language. Topics include input and output, decision structures, repetition structures, functions, working with files, strings, object-oriented programming and inheritance. Upon completion, students will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	943150	App Development with SWIFT I	This is the first of two courses designed to teach specific skills related to app development using Swift language.	10	12
2019-2020	943151	App Development with SWIFT II	This course focuses on building specific features for iOS apps. Students apply their knowledge and skills to developing new apps.	10	12
2019-2020	943152	Business Applications	Prior programming training is put to use in implementing a practical business application such as accounts receivable, accounts payable, payroll, or other business system. A different application is selected each semester. Instructor will provide student with the necessary data and the student will create all the programs that are necessary to produce the expected results. This course will require outside laboratory time to produce programs for evaluation. Mastery of the language selected for the study, at the desired level, is required.	10	12
2019-2020	943153	Introduction to CNC	This is an introductory course with emphasis placed in the basic concepts and terminology of numerical control. Topics include Cartesian coordinate system, CNC principles and machine capabilities. Student will gain an understanding of CNC machine tools and their usage.	10	12
2019-2020	943154	Basic Computer Aided Drafting and Design	This course provides an introduction to basic Computer Aided Drafting and Design (CADD) functions and techniques, using “hands-on” applications. Topics include terminology, hardware, basic CADD and operating system functions, file manipulation, and basic CADD software applications in producing softcopy and hardcopy.	10	12
2019-2020	943155	Structural Concrete Drafting	This course is designed to develop the knowledge and skills necessary to understand the basic components and terminology of pre-cast and poured-in-place concrete structures. Emphasis is placed on pre-cast concrete framing plans, sections, fabrication and connection details, poured-in-place concrete foundations, floor systems, and bills of material. Upon completion, students should be able to construction engineering and shop drawings of concrete beams, column, floor, rood, and wall framing plans using the A.I.S.C. Manual and incorporating safety practices.	10	12
2019-2020	943156	Transport Trailer Component and Safety	This course provides instruction in the identification of trailer components and safety when basic trailer service repairs are performed in the shop. Upon completion, students should be able to identify all components of a Class 8 trailers; the tools associated with trailer repair and perform lab tasks safely in the shop.	10	12
2019-2020	943157	Trailer Maintenance and Inspection	This course introduces the student to the Preventive Maintenance of Class 8 Trailers and the Department of Transportation Trailer Inspection procedures. Emphasis is placed on maintaining and the inspection of Trailer Air Brake Systems, Trailer Suspension Systems, Trailer Lighting, and Trailer Structures. Upon completion, students should be able to develop PM schedules for trailers, perform preventive maintenance on Class 8 trailers and perform DOT Trailer inspections.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943158	Trailer Electrical Systems	This course introduces the student to basic Electrical / Electronic concepts and fundamentals. It provides the principles of electricity, magnetism, and Ohm's Law. Emphasis is placed on lighting circuits, which include series, parallel, and series-parallel circuits. Troubleshooting and repair of wiring harnesses, lights and electronic circuits on Trailers. Upon completion, students should be able to identify components, test systems, and repair electrical issues on trailers.	10	12
2019-2020	943159	Trailer Structure Repair	This course is a study of the principles, procedure, and the use of equipment of the structural repairs on trailers. It includes safety procedures and the various procedures for repairing structural damage on trailers. Upon completion, students will be able to safely demonstrate repairs on trailers and the use equipment necessary to meet industry needs.	10	12
2019-2020	943160	System Analysis and Design	This course is a study of contemporary theory and systems analysis and design. Emphasis is placed on investigating, analyzing, designing, implementing, and documenting computer systems. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.	10	12
2019-2020	943161	Automatic Controls Systems	This course emphasizes automated control systems and sub-systems. Topics include robotics, programmable hydraulics, pneumatic, microprocessor, variable-speed drives, transducers, and related control circuitry with emphasis on troubleshooting the total system. Upon completion, students should be able to apply principles of automated control systems.	10	12
2019-2020	943162	PLCs in Automated Systems	This course includes the installation, programming, and networking of PLCs in Automated Systems. Emphasis is placed on the PLC's installation and interaction within an automated system. Upon completion, students should be able to demonstrate their ability in developing PLC networks and troubleshoot the system. Note: This course covers either Siemens or Allen Bradley PLCs and HMI panels.	10	12
2019-2020	943163	Microprocessor Systems Troubleshooting	This course provides familiarization with various techniques and test equipment required for troubleshooting microprocessor based designs to the component and module level. It provides hands on experience troubleshooting microcomputer trainers designed for fault insertion or in an actual setting. Upon completion, students will be able to troubleshoot a faulty microprocessor based system. This course supports CIP code 47.0105.	10	12
2019-2020	943164	Transportation & Distribution Logistics	This course is a study of the United States transportation system with a specific emphasis on freight transportation modes common to distribution logistics. Topics include common modes of freight transportation, transportation mode characteristics, cost, operational factors, transportation regulation, and planning.	10	12
2019-2020	943165	Warehouse Operations Applications	This course focuses on theoretical applications of day to day activities and issues within a warehouse operation. Special emphasis is placed on the interrelationship between the various systems associated with warehouse operations. Students will analyze case studies and current issues to determine optimum operation and management of warehouse activities.	10	12
2019-2020	943166	Quality Improvement in Supply Chain Management	This course provides basic knowledge and skills with quality improvement processes. Emphasis is placed on analysis of processes to locate potential or actual problems associated with supply chain management.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943167	Supply Chain Analytics	This course provides an introduction to data analysis tools and techniques used by Logistics/Supply Chain Management personnel to effectively analyze large volumes of data. Topics include collection, classification, sortation and presentation of multiple levels/types of product data.	10	12
2019-2020	943168	EKG Technician	This course provides students with an overview of cardiovascular electrophysiology and its role in health care delivery. Topics include cardiovascular anatomy, physiology and electrophysiology, interpretation of rhythm strips and diagnostic electrocardiography. Students should be able to secure an EKG tracing, troubleshoot problems with the acquisition of an EKG tracing, and interpret simple EKG rhythm strips.	10	12
2019-2020	943169	Injection Mold Design	Students learn to identify the components of an injection mold such as mold base, sprue bushing, runner system, gates, vents, cavities, inserts and ejection system. Students learn the purpose of each component of an injection mold. Students learn common materials used to build an injection mold.	10	12
2019-2020	943170	Injection Mold Design Lab	Students demonstrate proper and safe techniques to build components of an injection mold such as sprue bushings, runner systems, gates, vents, cavities, inserts and ejection systems.	10	12
2019-2020	943171	Introduction to Machining Technology	This course introduces precision machining processes as they relate to the metalworking industry. Topics include machine shop safety, precision measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform basic measurement and layout, drilling, sawing, turning, and milling to make parts and tools.	10	12
2019-2020	943172	Molding Materials and Properties	This course is designed for students interested in injection molding. The lecture will emphasize the facts, principles and theories of general chemistry related to synthetic organic materials such as polymers, plastics, and resins. The lessons will include math operations, matter and energy, atomic structure, symbols and formulas, nomenclature, the periodic table, bonding concepts, equations, and reactions related to the chemical bonds which take place during polymerization.	10	12
2019-2020	943173	Fundamentals of Shipfitting I	This course introduces students to the ship building industry and focuses on what the tasks of shipfitters. Students learn terminology and the safe use of tools. Theories taught in the class room will be practiced in the lab area as a hands on activity.	10	12
2019-2020	943174	Blue Print Reading I	This course provides students with the understanding and fundamentals of industrial blueprint reading. Emphasis is placed on reading and interpreting lines, views, dimensions, weld joint configurations and weld symbols. Upon completion students should be able to interpret welding symbols and blueprints as they apply to welding and fabrication. NOTE: WDT 110 is a suitable substitute for this course.	10	12
2019-2020	943175	Layout and Scribing	This course provides students with opportunities to develop skills in layout and scribing in a variety of applications related to shipfitting.	10	12
2019-2020	943176	Fundamentals of Shipfitting II	This course is a continuation of shipfitting I with emphasis on practical aspects of shipfitting in a simulated ship building environment. Safety and proper tool uses is emphasized in all aspects of this course.	10	12
2019-2020	943177	Blue Print Reading II	Blue Print Reading II is continuation of SHP 114 - Blue Print Reading I. Emphasis will be on reading a blue print to identify lines, shapes, symbols, dimensions, and notes as well as building projects using a blue print. Application for this course focuses on the shipfitting profession.	10	12
2019-2020	943178	SMAW Carbon Pipe	This course introduces students to the practices and allows opportunities to develop skills for welding carbon steel pipe using the shielded metal arc weld(SMAW) process. Emphasis is placed on safety, pipe positions, electrode selection, joint geometry, joint preparation, and fit-up.	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943179	MSSC Safety Course	This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics include: safety in a manufacturing environment, safety and environmental inspections, emergency drills, identifying and correcting unsafe work conditions, orienting employees to safety procedures and equipment use, fulfilling safety and health requirements for maintenance, installation, and repair, monitoring safe equipment and operator performance, and utilizing effective safety-enhancing workplace practices. NOTE: This course is in support of the MSSC Certified Technician credential.	10	12
2019-2020	943180	MSSC Quality Practices and Measurement Course	This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics include: internal quality and audit activities, calibrating gages and other data collection equipment, continuous improvement, inspection and documentation, and reporting processes, corrective actions, fundamentals of blueprint reading, common measurement systems, and precision measurement tools. NOTE: This course is in support of the MSSC Certified Technician credential.	10	12
2019-2020	943181	MSSC Manufacturing Processes and Production Course	This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics include: identifying customer needs, determining resources available, setting up equipment for the production process, setting team production goals, making job assignments, coordinating work flow, communicating production and material requirements, monitoring processes, documenting production compliance, and preparing product for shipping and distribution. NOTE: This course is in support of the MSSC Certified Technician credential.	10	12
2019-2020	943182	MSSC Maintenance Awareness Course	This course is designed to provide students with knowledge and skills related to safety in a manufacturing environment. Topics include: Preparing preventative and routine maintenance and repair, monitoring indicators, housekeeping, and recognizing potential maintenance issues related to various production systems and equipment. Note: This course is in support of the MSSC Certified Technician credential.	10	12
2019-2020	943183	Introduction to App Development with SWIFT	This introductory one-semester course is designed to help students build a solid foundation in programming fundamentals using Swift as the language. Students get practical experience with the tools, techniques, and concepts needed to build a basic iOS system.	10	12
2019-2020	943184	Introduction to Pipefitting	This course is designed to introduce students to an overview of the pipefitting trade, pipefitting safety, pipefitting hand tools and pipefitting power tools. Students will also be instructed in the proper and safe way to set up oxyfuel cutting equipment 2-1 ratio 50 minute hours	10	12
2019-2020	943185	Introduction to Pipefitting Tools	This course is designed to give students ample lab time to work with pipefitting hand tools and pipefitting power tools with emphasis placed on safety with these tools. Students will also be instructed in the correct use of oxyfuel cutting equipment. 2-1 ratio 50 minute hours	10	12
2019-2020	943186	Introduction to Pipefitting Blueprints	This course is designed to introduce students to piping systems, drawings and details. It also places emphasis on math skills needed for entry level pipefitting craft. 2-1 ratio 50 minute hours	10	12
2019-2020	943187	Introduction to Piping Systems, Drawings and Detail Sheets	This course is designed to instruct students to physically use various drawings to layout and cut different types of pipe per drawings, using pipefitting power tools. 2-1 ratio 50 minute hours	10	12
2019-2020	943188	Threaded Pipe and Socket Weld Pipe Fabrication	This course is designed to introduce students to ladder and scaffold safety. Students will also be introduced to materials used for threaded and socket weld piping systems. Students will also be instructed on how to determine cut lengths of pipe for threaded and socket weld pipe fittings. 2-1 ratio 50 minute hours	10	12

**2019-2020 Dual Enrollment Subject and Personnel Course Descriptions
(May 2019)**

Summer 2019 Update

School Year	Course Code	Course Name	Course Description	Low Grade	High Grade
2019-2020	943189	Threaded & Socket Weld Pipe	This course is designed to instruct students with emphasis placed on safely and correctly erecting and working from ladders and scaffolds. Students will be instructed how to prepare pipe ends for threaded and socket weld pipe fabrication. Students will fabricate piping systems using threaded and socket weld fittings per given drawings. 2-1 ratio 50 minute hours	10	12
2019-2020	943190	Butt Weld Pipe Fitting and Pipe Rigging	This course is designed to introduce students to the materials used in butt weld piping systems, students will also be instructed on how to determine cut lengths for pipe using various butt weld fitting. Students will also be introduced to basic rigging hardware. 2-1 ratio 50 minute hours	10	12
2019-2020	943191	Pipe Rigging and Butt Weld Fabrication	This course is designed to give students ample time to fabricate piping systems using various butt weld fittings. Students will be instructed how to prepare pipe ends for but weld pipe fabrication. Students will also be instructed on safely and correctly using various types of pipe rigging. 2-1 ratio 50 minute hours	10	12
2019-2020	950000	ALSDE Approved Dual Enrollment Electives, Grades 10-12	Dual enrollment course MAY BE USED upon approval by ALSDE.	10	12
2019-2020	980001	Dual Enroll English Language Arts-- College/University	This course is for awarding dual enrollment/dual credit for approved English Language Arts courses completed at a four-year college/university which meets a high school graduation requirement.	10	12
2019-2020	980011	Dual Enroll Mathematics-- College/University	This course is for awarding dual enrollment/dual credit for approved Mathematics courses completed at a four-year college/university which meets a high school graduation requirement.	10	12
2019-2020	980021	Dual Enroll Science-- College/University	This course is for awarding dual enrollment/dual credit for approved Science courses completed at a four-year college/university which meets a high school graduation requirement.	10	12
2019-2020	980031	Dual Enroll Social Sciences-- College/University	This course is for awarding dual enrollment/dual credit for approved Social Sciences courses completed at a four-year college/university which meets a high school graduation requirement.	10	12
2019-2020	980041	Dual Enroll World Languages-- College/University	This course is for awarding dual enrollment/dual credit for approved World Languages courses completed at a four-year college/university which meets a high school graduation requirement.	10	12
2019-2020	980051	Dual Enroll Arts Ed-- College/University	This course is for awarding dual enrollment/dual credit for approved Arts Education courses completed at a four-year college/university which meets a high school graduation requirement.	10	12
2019-2020	980061	Dual Enroll Elective-- College/University	This course is for awarding dual enrollment/dual credit for approved Elective courses completed at a four-year college/university which meets a high school graduation requirement.	10	12