

**290-3-3-.07 Middle-Level Teaching Fields (Grades 4-8).**

(1) **Rationale.** Great teacher preparation for middle grade teachers is not the same as great teacher preparation for secondary teachers. “Early adolescence is a period of both enormous opportunities and tremendous risks” (Jackson et al. 2000). One of the most critical challenges to improving high school graduation rates may be ensuring a high level of quality in middle grades coursework and course performance. Middle grade teachers have the responsibility of planning and implementing developmentally appropriate quality middle grade coursework and curriculum in classrooms that engage students intellectually, emotionally, socially, and behaviorally in learning. The Association for Middle Level Education (AMLE) standards for teacher preparation provide a benchmark for middle level teacher preparation programs and serve to highlight the nuances of top-quality preparation of teachers for employment in the middle grades. These rules are effective for new programs submitted for review May 1, 2019, and thereafter.

(2) **Middle Level Standards Applicable to All Teaching Fields.** The following standards were adapted from the Association for Middle Level Education.

(a) **Young Adolescent Development.** Middle level teacher candidates understand the major concepts, principles, theories, and research underlying the philosophical foundations of developmentally responsive middle level programs and schools. They work successfully within middle level programs and practices such as interdisciplinary teaming, advisory programs, flexible block schedules, and common teacher planning time. They relate positively to manifestations of young adolescent development and the diversity of learners. They demonstrate their ability to apply this knowledge when making curricular decisions, planning and implementing instruction, participating in middle level programs and practices, and providing healthy and effective learning environments for all young adolescents. Effective teacher preparation programs provide multiple and continuing opportunities for middle level teacher candidates to learn about the unique characteristics, needs, and interests of young adolescents and to document their ability to use the knowledge gained in their practice.

(b) **Curriculum.** Middle level teacher candidates understand and use the central concepts, standards, research, and structures of content to plan and implement middle level curriculum that develops all young adolescents’ competence in subject matter. They use their knowledge and available resources to design, implement, and evaluate challenging, developmentally responsive curriculum that results in meaningful learning outcomes. Middle level teacher candidates demonstrate a depth and breadth of subject matter content knowledge in the subjects they teach and assist all young adolescents in understanding the interdisciplinary nature of knowledge. Middle level teacher candidates use their knowledge of local, state, and national standards to frame their teaching. They draw on their knowledge of these standards to design, implement, and evaluate developmentally responsive, meaningful, and challenging curriculum for all young adolescents. They design and teach curriculum that is responsive to all young adolescents’ local, national, and international histories, language/dialects, and individual identities (e.g., race, ethnicity, culture, age, appearance, ability, socioeconomic status, family composition). They use information literacy skills and state-of-the-art technologies to enhance their teaching.

**(c) Philosophy and School Organization.** Middle level teacher candidates understand middle level philosophy and school organization. They understand the major concepts, principles, theories, and research underlying the philosophical foundations of developmentally responsive middle level programs and schools, and they work successfully within middle level programs and practices such as interdisciplinary teaming, advisory programs, flexible block schedules, and common teacher planning time. Well-prepared middle level teacher candidates demonstrate their knowledge of the philosophical underpinnings of middle level education and document their ability to use this knowledge in their practice. They can articulate the rationale for developmentally responsive programs and practices such as interdisciplinary teaming and advisory programs, and they use this knowledge within the context of a range of school settings. Middle level teacher candidates exhibit a commitment to developmentally responsive organizational structures that foster socially equitable programs and practices that enhance the education and well-being of all young adolescents. They demonstrate their ability to participate successfully in best practices that are supported by the middle-level knowledge base in a variety of school settings.

**(d) Instruction and Assessment.** Middle level teacher candidates understand, use, and reflect on the major concepts, principles, theories, and research related to data-informed instruction and assessment. They employ a variety of developmentally appropriate instructional strategies, information literacy skills, and technologies to meet the learning needs of all young adolescents (e.g., race, ethnicity, culture, age, appearance, ability, socioeconomic status, family composition). Well-prepared middle level teacher candidates demonstrate their ability to use a wide range of assessments to inform their decisions about instruction. They use multiple methods of formative and summative assessments to engage young adolescents in their own learning. Middle level teacher candidates document their ability to draw upon their subject matter knowledge when planning instruction, teaching, and conducting assessments. They enhance student learning, information literacy skills (e.g., critical thinking, problem solving, evaluation of information gained), and technology skills in the students they teach. Middle level teacher candidates prepare young adolescent learners for the demands of particular assessment formats and make accommodations in assessments for learners with exceptionalities and language learning needs. They employ technology to support assessment practices that engage young adolescents in assessing their own learning needs and interests.

**(e) Professional Roles.** Middle level teacher candidates understand their complex professional roles as teachers of young adolescents. These specialized professional roles constitute one of the primary differences in specialized middle level teacher preparation programs and professional preparation programs designed to prepare teachers of young children for the primary grades or older adolescents at the senior high school level. Teacher candidates engage in practices and behaviors that develop their competence as middle level professionals. They are informed advocates for young adolescents and middle level education, and work successfully with colleagues, families, community agencies, and community members. Middle level teacher candidates demonstrate positive dispositions and engage in ethical professional behaviors.

**(3) Options.** In addition to meeting Rules 290-3-3-.02(6)(a)1.-4., 290-3-3-.02(6)(e)1. and 2.(i)-(iii), 290-3-3-.03, 290-3-3-.04, and 290-3-3-.07(2)(a)-(e), an institution has four options for the preparation of middle-level teachers based on completion of a comprehensive teaching field:

**(a) English Language Arts.** The total program must include **at least 9 semester hours in the teaching of reading (strategies for analyzing reading difficulties and improving reading performance)** and at least 24 semester hours of English language arts courses, not professional educator preparation courses, spread across content to include literature, grammar (language use and vocabulary), writing, speaking, listening, and visual literacy.

**(b) Mathematics.** The total program must include at least 6 semester hours in the teaching of reading and writing for mathematics literacy (strategies for analyzing reading difficulties and improving reading performance) and at least 27 semester hours of mathematics courses, not professional educator preparation courses, spread across content to include the number system, expressions and equations, algebra, geometry, measurement and data, proportional relationships, and statistics.

**(c) General Science.** The total program must include at least 6 semester hours in the teaching of reading and writing for science literacy (strategies for analyzing reading difficulties and improving reading performance) and at least 27 semester hours of science courses, not professional educator preparation courses, spread across content to include physical sciences; life sciences; Earth and space sciences; engineering, technology, and applications of science; the history and nature of science; and science safety.

**(d) General Social Studies.** The total program must include at least 6 semester hours in the teaching of reading and writing for social studies literacy (strategies for analyzing reading difficulties and improving reading performance) and at least 27 semester of social studies courses, not professional educator preparation courses, hours spread across content to include world, United States, and Alabama history; political science; geography; and economics.

**(4) Teaching Field Specific Methods Course.** Each middle level teaching field shall be supported by a methods course specific to the teaching field and grade span and focused on teaching the content reflected in Alabama Course of Study for the teaching field. Methods courses for a comprehensive middle level teaching field shall not be combined with methods courses for other teaching fields or grade spans. Additional information is provided in Rule 290-3-3-.02(6)(c)2.

**(5) Classroom Management and Diversity Course.** Each middle level teaching field shall be supported by a classroom management course specific to middle grades and designed to prepare prospective teachers to manage middle level classrooms of diverse students.

**Author:** Dr. Eric G. Mackey

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**290-3-3-.07.01 Middle-Level English Language Arts (Grades 4-8).**

**(1) Rationale.** The middle level English Language Arts program prepares teachers to use the *Alabama Course of Study: English Language Arts* and other guides to provide instruction in reading and other English Language Arts disciplines. The standards build upon the Alabama Core Teaching Standards and are guided by tenets of the Association for Middle Level Education.

**(2) Program Curriculum.** In addition to meeting Rules 290-3-3-.02(6)(a)1.-4., 290-3-3-.02(6)(e)1. and 2.(i)-(iii), 290-3-3-.03, 290-3-3-.04, and 290-3-3-.07(1)(a)1. and (2), the program shall prepare prospective middle-level English language arts teachers who demonstrate knowledge of reading; language use and vocabulary; writing, speaking, listening; visual literacy; and English language arts instruction.

**(a) Reading.** Prior to program completion, prospective teachers will demonstrate:

1. General knowledge of :
  - (i) Major works, authors, and contexts of United States, British, and World literature appropriate for adolescents.
  - (ii) Defining characteristics of literary genres (e.g., poetry, literary nonfiction, drama).
  - (iii) Defining characteristics of major subgenres (e.g., sonnet, historical fiction, functional text).
2. Literature-related knowledge of how:
  - (i) Literal and inferential interpretations of a literary text can be supported with textual evidence.
  - (ii) A theme is developed within and across works from a wide variety of literary genres and other media.
  - (iii) Literary elements (e.g., characterization, setting, plot development) contribute to the meaning of a text.
  - (iv) Word choice (e.g., figurative, connotative, or information language) contributes to the meaning and tone of a literary text.
  - (v) Poetic devices and structure contribute to the meaning of a poem.
  - (vi) Literary skills support active reading of a literary text (e.g., making predictions, making connections with the text, summarizing).
3. Informational texts and rhetoric knowledge sufficient to:
  - (i) Understand how literal and inferential interpretations of an informational text can be supported with textual evidence.
  - (ii) Know a variety of organizational patterns that can be used to develop a central idea in an informational text.
  - (iii) Understand how word choice (e.g., figurative, connotative, or technical language) contributes to the meaning and tone of an informational text.
  - (iv) Understand methods that authors use to convey purpose and perspective in informational texts.
4. Visual texts and meaning sufficient to:
  - (i) Understand how visual texts can be used to convey a message.
  - (ii) Understand how visual devices contribute to meaning.
  - (iii) Use graphic novels and essays.

**(b) Vocabulary Acquisition and Use:** Prior to program completion, prospective teachers demonstrate knowledge of:

1. Use of affixes, context, and syntax to determine word meaning.
2. Use of print and digital materials to support correct language usage and appropriate vocabulary acquisition and use.
3. Variation in dialect and diction across regions, cultural groups, and time periods.

**(c) Writing, Speaking, and Listening.** Prior to program completion, prospective teachers demonstrate knowledge of:

1. Conventions of Standard English grammar, usage, syntax, and mechanics (e.g., sentence types, verb tenses, punctuation).
2. Distinct characteristics of various types of writing (e.g., argumentative, informative/explanatory, narrative).
3. Appropriateness of effective writing in relation to the task, purpose, and audience.
4. Characteristics of clear and coherent writing (e.g., development, organization, style).
5. Effective research practices, including evaluating the credibility of multiple print and digital sources, gathering relevant information, and citing sources accurately.
6. Effective delivery of a speech or presentation (e.g., eye contact, visual aids, tone).
7. Methods that authors use to appeal to a specific audience.
8. What constitutes an effective written argument with strong supporting evidence.

**(d) English Language Arts Instruction.** Prior to program completion, prospective teachers demonstrate ability to use:

1. The *Alabama Course of Study: English Language Arts* and other guides to provide instruction in reading and other language arts disciplines.
2. Research-based approaches to support language acquisition and vocabulary development for diverse learners.
3. Techniques for instructing students to participate productively in collaborative discussions (e.g., one-on-one, in groups, teacher-led) and listen actively.
4. Techniques for instructing students to communicate effectively and appropriately using technological tools (e.g., presentation software, blogs, and wikis).
5. Research-based approaches to grouping and differentiated instruction to meet specific instructional objectives in English Language Arts (e.g., literature circles, peer conferencing, collaborating with educators of special needs or linguistically diverse students).
6. Approaches to choosing texts for students based on ability and interests.
7. A variety of techniques to diagnose reading difficulties and teach struggling readers to overcome those difficulties.
8. Research-based strategies for teaching adolescent reading (e.g., activating prior knowledge, modeling and metacognitive practices).
9. Research-based approaches to teaching components of writing (e.g., writing workshop, modeling).

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10. Approaches to and purposes of formative and summative assessment of reading, writing, speaking, listening (e.g., use of rubrics, conferencing techniques, providing useful feedback), and visual literacy.

11. Effective approaches to incorporating student input into the design and use of English Language Arts curriculum and assessments (e.g., literature selection, collaboratively designed rubrics).

**Author:** Dr. Eric G. Mackey

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**290-3-3-.07.02 Middle-Level Mathematics (Grades 4-8).**

(1) **Rationale.** The middle-level Mathematics program prepares teachers to use the *Alabama Course of Study: Mathematics* and other guides to provide instruction in mathematics. The standards build upon the Alabama Core Teaching Standards and are guided by tenets of the Association for Middle Level Education.

(2) **Program Curriculum.** In addition to meeting Rules 290-3-3-.02(6)(a)1.-4., 290-3-3-.02(6)(e)1. and 2.(i)-(iii), 290-3-3-.03, 290-3-3-.04, and 290-3-3-.07(1)(a)1. and (2), the program shall prepare prospective middle-level mathematics teachers who demonstrate knowledge of the number system, expressions and equations, geometry, measurement and data, proportional relationships, and statistics and probability.

(a) **Number System.** Prior to program completion, prospective teachers demonstrate knowledge of:

1. How to develop fluency with efficient procedures for operations on the real number system.
2. How to create models for operations of the real number system.
3. Operations and properties of the real number system to solve problems.
4. How to develop and use the meaning of unit fractions in the operations of fractions.
5. Relationships among fractions, decimals, and percent.
6. How to solve application problems with fractions, decimals, percentages, and proportions.
7. Numbers that are not rational, and how to approximate them by rational numbers.
8. How to use basic concepts of number theory (e.g., divisibility, prime factorization, multiples) to solve problems.
9. A variety of strategies to determine the reasonableness of results.

(b) **Expressions and Equations.** Prior to program completion, prospective teachers demonstrate ability to:

1. Reason about and solve one-variable equations and inequalities.
2. Represent and analyze quantitative relationships between dependent and independent variables.
3. Use properties of operation to general equivalent expressions.
4. Solve real-life mathematical problems using numerical and algebraic expressions and equations.
5. Work with radicals and integer exponents.
6. Understand the connections among proportional relationships, lines, and linear equations.
7. Analyze and solve linear equations and pairs of simultaneous linear equations.
8. Define, evaluate, and compare functions.
9. Use functions to model relationships between quantities.

(c) **Geometry.** Prior to program completion, prospective teachers demonstrate ability to:

1. Graph points on the coordinate plane to solve real-world and mathematical problems.
2. Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
3. Draw, construct, and describe geometrical figures and describe the relationships among them.
4. Understand congruence and similarity using physical models, transparencies, and/or geometry software.
5. Understand and apply the Pythagorean Theorem.

(d) **Measurement and Data.** Prior to program completion, prospective teachers demonstrate ability to:

1. Represent and interpret data.
2. Solve real-world and mathematical problems involving measurements (e.g., angle, area, surface area, and volume, including cylinders, cones, and spheres).
3. Convert units within a given measurement system.

(e) **Proportional Relationships.** Prior to program completion, prospective teachers demonstrate ability to:

1. Develop ratio concepts and reasoning to solve problems.
2. Analyze proportional relationships and use that ability to solve real-world and mathematical problems.

(f) **Statistics and Probability.** Prior to program completion, prospective teachers demonstrate ability to:

1. Understand statistical variability.
2. Summarize and describe distributions.
3. Use random sampling to draw inferences about a population.
4. Draw informal comparative inferences about two populations.
5. Investigate chance processes and develop, use, and evaluate probability models.
6. Investigate patterns of association in bivariate data.

(g) **Mathematics Instruction.** Prior to program completion, prospective teachers demonstrate ability to use the *Alabama Course of Study: Mathematics* and other guides to provide research-based instruction so that students are able to:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.



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**290-3-3-.07.02 Author**

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**290-3-3-.07.03 Middle-Level General Science (Grades 4-8).**

(1) **Rationale.** The middle-level General Science program prepares teachers to use the *Alabama Course of Study: Science* and other guides to provide instruction in science. The standards build upon the Alabama Core Teaching Standards and are guided by tenets of the Association for Middle Level Education.

(2) **Program Curriculum.** In addition to meeting Rules 290-3-3-.02(6)(a)1.-4., 290-3-3-.02(6)(e)1. and 2.(i)-(iii), 290-3-3-.03, 290-3-3-.04, and 290-3-3-.07(1)(a)1. and (2), the program shall prepare prospective middle-level general science teachers who demonstrate knowledge of scientific and engineering practices; the crosscutting concepts of science; the disciplinary core ideas of physical sciences, life sciences, and Earth and space sciences; engineering, technology, and applications of science; the history and nature of science; and science safety.

(a) **Scientific and Engineering Practices.** Prior to program completion, prospective teachers demonstrate ability to:

1. Ask questions (science) and define problems (engineering)/
2. Develop and use models.
3. Plan and carry out investigations.
4. Analyze and interpret data.
5. Use mathematics and computational thinking.
6. Construct explanations (science) and design solutions (engineering)
7. Obtain, evaluate, and communicate information.
8. Engage in argument based on evidence.

(b) **Crosscutting Concepts.** Prior to program completion, prospective teachers demonstrate knowledge of:

1. Patterns.
2. Cause and effect, including mechanism and explanation.
3. Scale, proportion, and quantity.
4. Systems and system models.
5. Energy and matter, including flows, cycles, and conservation.
6. Structure and function.
7. Stability and change.

**(c) Disciplinary Core Ideas.** Prior to program completion, prospective teachers demonstrate knowledge of:

1. Physical Sciences.
  - (i) Matter and its interactions.
  - (ii) Energy.
  - (iii) Motion and stability.
  - (iv) Waves and their applications in technologies for information transfer.
  - (v) The periodic table and how to use it to predict the physical and chemical properties of elements.
  - (vi) Types of chemical bonding and the composition of simple chemical compounds.
2. Life Sciences.
  - (i) Basic structure and function of cells and their organelles.
  - (ii) Basic cell reproduction.
  - (iii) Basic biochemistry of life.
  - (iv) Basic genetics.
  - (v) Heredity.
  - (vi) Elements of hierarchical classification schemes and the characteristics of the major groups of organisms.
  - (vii) Major structures and functions of plant organisms and systems.
  - (viii) Basic anatomy and physiology of animals, including structure and function of human body systems and the major differences between humans and other animals.
3. Earth and Space Sciences.
  - (i) Physical and historical geology.
  - (ii) Earth's place in the universe.
  - (iii) Structure and processes of Earth's oceans and other bodies of water.
  - (iv) Basic astronomy and meteorology, including major factors that affect climate and seasons.
  - (v) How human activity impacts the Earth and Earth's systems.
4. Engineering, Technology, and the Applications of Science.
  - (i) The nature and history of science.
  - (ii) Engineering design.
  - (iii) The impact of science and technology on the environment, public health issues, and society.
  - (iv) Major issues associated with energy production and the management of natural resources.
  - (v) Applications of science and technology in daily life.

5. Science Safety.

- (i) Procedures for safe and correct storage, use, care, and disposal of equipment, specimens, and materials.
- (ii) How to ensure safety in the science classroom and laboratory.

**(d) Science Instruction.** Prior to program completion, prospective teachers demonstrate ability to use the *Alabama Course of Study: Science* and other guides to provide research-based instruction so that students are able to:

- 1. Participate in opportunities for investigation, observation, and explanation of a variety of scientific phenomena.
- 2. Participate in specific engineering design projects to:
  - (i) Find answers regarding which components of a device change energy from one form to another.
  - (ii) How wave patterns can be used to transfer information.
  - (iii) How to limit the effects of harmful natural Earth processes on human life.
  - (iv) Find answers regarding which methods can be used to clean a polluted environment.
  - (v) How to modify the speed of a falling object due to gravity.
  - (vi) Develop their abilities to work in cooperative groups to design solutions to problems encountered in the real world.

**Author:** Dr. Eric G. Mackey

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**290-3-3-.07.04 Middle-Level General Social Studies (Grades 4-8).**

(1) **Rationale.** The middle-level General Social Studies program prepares teachers to use the *Alabama Course of Study: Social Studies* and other guides to provide instruction in social studies. The standards build upon the Alabama Core Teaching Standards and are guided by tenants of the Association for Middle Level Education.

(2) **Program Curriculum.** In addition to meeting Rules 290-3-3-.02(6)(a)1.-4., 290-3-3-.02(6)(e)1. and 2.(i)-(iii), 290-3-3-.03, 290-3-3-.04, and 290-3-3-.07(1)(a)1. and (2), the program shall prepare prospective middle-level general social studies teachers who demonstrate knowledge of United States, Alabama and world history; government/civics; geography; economics; and social/behavior sciences. Prior to program completion prospective teachers demonstrate knowledge of:

**(a) United States and Alabama History.**

1. Chronological developments in United States and Alabama history.
2. Major themes in United States and Alabama history.

**(b) World History.**

1. Chronological developments in world history.
2. Major themes in world history.

**(c) Government/Civics.**

1. United States government and civics.
2. Alabama state government.
3. Comparative government and international relations.

**(d) Geography.**

1. Geographic literacy.
2. Map skills.
3. Physical geography.
4. Human geography.
5. Regional geography.

**(e) Economics.** Prior to program completion, prospective teachers demonstrate knowledge of:

1. Microeconomics.
2. Macroeconomics.
3. Comparative economics.

**(3) Social Studies Instruction.** Prior to program completion, prospective teachers demonstrate ability to use the *Alabama Course of Study: Social Studies* and other guides to provide research-based instruction so that students are able to:

(a) Apply geographic concepts and understanding of geographic regions and spatial patterns of physical and human phenomena to study Alabama and the world and relate geography to history, **economics**, ecology, civics and politics in Alabama and beyond.

**(b) Examine ways economic and political institutions respond to the needs of Alabamians.**

**(c) Gain knowledge of economic principles and technological advancements as well as knowledge of past events and present-day practices in Alabama,** the United States, and the world.

(d) Teach economics content to include but not be limited to topics such as economic systems, the relationship between the consumer and the marketplace, and principles of personal finance and money management.

(e) Learn specific characteristics regarding the land and its people and analyze diverse groups that contributed to the development of Alabama.

(f) Use maps, globes, satellite images, and skills to interpret graphic organizers, text, charts, and graphs.

(g) Investigate the structure of state and local governments.

(h) Compare similarities between contemporary issues and their historical origins and draw parallels among historical events in Alabama, other states, and the world.

(i) Demonstrate respect for the views of others while analyzing and evaluating relationships between ideas and practices.

(j) Understand the impact of prehistoric times, the Industrial Revolution, the Civil War, World War I, the Great Depression, World War II, the Cold War Era, and civil rights efforts on current events in Alabama and the world.

(k) Assume appropriate responsibilities in their families, schools, and community roles and apply their civic knowledge and skills to understand local, national and international issues.

**Author:** Dr. Eric G. Mackey

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