

AGRICULTURE, FOOD & NATURAL RESOURCES

ALABAMA SUCCESS

EDUCATION & CAREER PLANNER

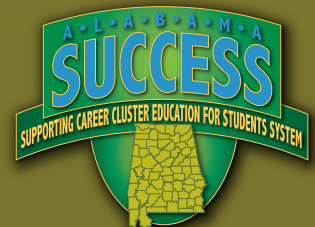
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Plant the Seeds of Success

Your guide to careers in
**AGRICULTURE, FOOD
& NATURAL RESOURCES**

Great Career Ideas • Creating Your Plan • College Resources



A message from . . .



Robert Bentley,
Governor of Alabama

The investments we make in our students today will help shape their futures for years to come. Our students are destined to become high-performing professionals in all sectors of the workforce.

Alabama SUCCESS is an initiative designed to help students access valuable information about current careers, postsecondary learning, and financial literacy resources.

Our goal is to give students the opportunities they need to prepare themselves for success. We want our students to be well-equipped for top careers in Alabama's workforce - which has a growing influence on the global marketplace.

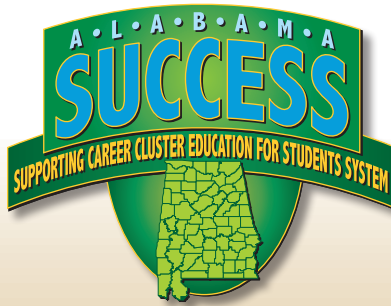
This Alabama SUCCESS guide is a great resource to assist in preparing for a bright and successful future.



Dr. Thomas R. Bice,
Alabama State
Superintendent of
Education

Alabama SUCCESS is an invaluable resource designed specifically for students. By

learning about actual career fields and the education and experience required for specific jobs, you will be better able to figure out what you want to do after high school and what you need to do to achieve your goals.



ATTENTION, PARENTS

This guide is part of a series created to help students in Alabama learn more about careers, salaries, and the steps they need to take to reach their goals. By connecting what they learn in the classroom to real jobs that interest them, Alabama students will graduate better prepared for life and work. You can help your child use this guide by:

- ◆ Talking to your child about what careers interest him or her—and why
- ◆ Sharing your work experiences—pro and con—with your child
- ◆ Asking people in your community who work in jobs that interest your child to talk about their careers or to let your child visit their workplace.





What Employers Want



Captain Donald Brooks, Acting Chief
Alabama Department of Conservation and Natural Resources

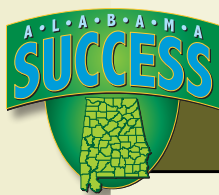
“Outdoor beauty and adventure abounds in Alabama. And that means any number of outstanding job opportunities are available in the outdoor arena for people from all walks of life. But no matter the exact path you choose, a basic love for and appreciation of nature is essential to succeeding in this career cluster. That passion will serve as the foundation for what can be a very exciting career path.

A strong background in biological science is also beneficial because it helps workers understand the nature and wildlife they have been asked to protect and promote. As environmental standards rapidly change, workers in this field must be able to adapt to change.

Reliability is also a very important character trait for workers in this career cluster; many jobs in the field require workers to meet stringent environmental standards.”

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CLUSTER

AGRICULTURE, FOOD & NATURAL RESOURCES

PATHWAY

- ▶ Power, Structural and Technical Systems
- ▶ Environmental and Natural Resources Systems
- ▶ Agribusiness Systems
- ▶ Animal Systems
- ▶ Plant Systems

SAMPLE OCCUPATION

- ▶ Agricultural Equipment Operator
- ▶ Fish and Game Warden
- ▶ Farm Labor Contractor
- ▶ Veterinary Assistant
- ▶ Food Scientist and Technologist

Agriculture, Food & Natural Resources

The cultivation and preservation of food and natural resources requires a cross-section of different skills sets. Whether you are a science buff or you just like working outdoors, the Agriculture, Food & Natural Resources cluster is bound to fit you in some way. Across Alabama, students in this cluster are preparing for exciting careers as varied as pursuing aquafarming and perfecting landscape design, fighting bioterrorism, and maintaining safe water supply.

CLUSTER PROFILE



YOU DECIDE

Does the Agriculture, Food & Natural Resources career cluster fit you, your talents, and your dreams? Take this quick quiz to find out.

1

Are you interested in environmental issues?

WHY IT MATTERS:

The environment is the canvas on which all Agriculture, Food & Natural Resources career paths are painted. A basic interest in environmental issues is a must for success in this field.

2

Do you have a love for the great outdoors?

WHY IT MATTERS:

In Alabama, plenty of jobs are available in this career cluster; the majority of them will lead you outdoors.

3

Are you good with animals, or interested in biological sciences?

WHY IT MATTERS:

Food production jobs allow you to work closely with animals. Students who are comfortable around animals have a leg up on this career path.

4

Do you enjoy gardening, camping, hunting, or fishing?

WHY IT MATTERS:

Jobs in Agriculture, Food & Natural Resources often require you to get your hands dirty, whether you are leading a fishing trip or landscaping a new business complex.

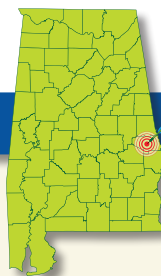
5

Do you have strong organizational skills?

WHY IT MATTERS:

Jobs in this career cluster are best suited to people with a well-rounded work ethic and the ability to stay organized.

If you answered “yes” to most of these questions, Agriculture, Food & Natural Resources could be right for you.



YOUNG PROFESSIONAL PROFILE

NAME: Kira Chaloupka

EDUCATION: Opelika High School, Opelika; Auburn University, Auburn—Horticulture, Bachelor of Science Degree

When 2009 Opelika High School graduate Kira Chaloupka entered Auburn University to pursue a degree in horticulture, she kept a family tradition alive. “I’ve been around plants all my life,” she says.

Throughout high school, Chaloupka worked at her uncle’s plant nursery, located just outside Opelika in Waverly. At the same time, Chaloupka served as an officer for her school’s FFA chapter. But Chaloupka says that what really put her on the path to a career in agriculture was the handful of horticulture classes she took under Opelika High’s Jerry Williamson.

“Without Mr. Williamson’s support, I am not sure my interest in horticulture would have stuck. I had always wanted to be a veterinarian. But he helped me realize I could have a future in plants,” she explains.

LEARN MORE

Explore Alabama’s rich landscape on the website of the Alabama Department of Conservation and Natural Resources



MAKE A PLAN

Sit down with your parents and counselor and create a plan.

Map out an Alabama Education Plan (sample at right) based on your interests, strengths, and possible career goals.

Your plan outlines the courses and electives you'll take in high school, plus related clubs and career preparation. Your counselor will work with you to determine the learning experiences needed for you to complete your plan, such as using distance learning or earning college credit from your local community college.

Here's a sample Alabama Education Plan for you to use as a guide.

SAMPLE* Alabama Education Plan

Name: Jordan Smith
 School: Central High School
 Diploma Option: Advanced Career and Technical Endorsement
 Cluster: Agriculture, Food & Natural Resources
 Pathway: Agribusiness Systems
 Career Goal: Food Systems Analyst
 Postsecondary Goal: Bachelor of Science, Food Marketing



	Math	English	Science	Social Studies	Other Optional Courses	Sampling of Career and Technical Education Courses in Pathway
9th Grade	Algebra I	English 9	Physical Science	World History 1500–Present	<ul style="list-style-type: none"> Physical Education -1 Health - 1/2 Fine Arts - 1/2 Computer Application - 1/2 Foreign Language I** Foreign Language II** 	<ul style="list-style-type: none"> Agriscience Agribusiness Technology Agribusiness Marketing Agricultural Communications Agribusiness Management
10th Grade	Geometry	English 10	Biology	United States History to 1877		
11th Grade	Algebra II with Trigonometry	English 11	Chemistry	United States History to Present		
12th Grade	Pre-Calculus or Calculus	English 12	Physics	Government and Economics		
Community College	General Education Requirements <ul style="list-style-type: none"> English Composition I English Composition II or SPH 106 Humanities Elective Intermediate College Math Microcomputer Applications Math or Science Elective History, Social, or Behavioral Science Orientation for Career Students 				Required and CTE Courses <ul style="list-style-type: none"> Seminar in Food & Nutritional Science Food Chemistry Applied Food Microbiology Methodology of Food and Nutrition Lab Nutritional Biochemistry Food Processing Engineering Technology Introduction to Horticulture* 	
Higher Education					<ul style="list-style-type: none"> Plant Propagation Principles of Aquaculture Water Aquaculture Biology and Diseases of Aquaculture Species Aquaculture Hatchery/Pond Management 	
Education and Career Assessments: 8th Grade: Interest inventory and education plan initiated for all learners 11th Grade: College placement assessment Career Learning Experiences: Career preparation—paid and unpaid, internships, job shadowing						
Co-Curricular Experiences: Future Farmers of America (FFA) Extracurricular Experiences: 4-H Club Service Learning Experiences: Volunteer at a local soup kitchen or food-based outreach program in your area						

*This is a sample plan and should not be considered a definitive plan for any student interested in this career cluster.
 **Alabama First Choice diploma requires 2 years of the same foreign language.

ARTICULATION AGREEMENT

is a fancy term for a simple education agreement that can streamline your road to a successful career.

Statewide articulation agreements link all high schools and two-year colleges in Alabama. They provide credit at two-year colleges for coursework mastered at the high school level.

Articulation agreements can take you down your career pathway as well. In many cases, students transferring from two-year to four-year colleges and universities can complete four-year general studies core course requirements before they transfer.



Get Career Credentials

If you're a student in a career and technical education (CTE) program, you may have the option of earning a Career Readiness Certificate along with your high school diploma. The nationally recognized certificate shows you're proficient in applied math, reading for information, and locating information—skills employers highly value. Ask your school counselor about the statewide program; if it's not in your high school now, it will be implemented soon.



CAREER IDEAS

Need-to-know facts and figures about real Alabama jobs, salaries, and education options in Agriculture, Food & Natural Resources.

The 12 careers highlighted on the next page are a sampling of occupations in the **Agriculture, Food & Natural Resources** cluster in Alabama. The charts include occupation name, description, plus wages for workers just starting out in the profession, average wages for those in the occupation, and the wages earned by experienced workers in the job (see “How to Read Job Charts”). The bar below the occupation’s name contains the Standard Occupational Code (SOC); use the SOC to look up more information about the career in online databases such as O*NET (see below). The bars are also color-coded to indicate the minimum level of education required for each profession.

For further information on occupations in all career clusters, go to the O*NET database

How to Read Job Charts

- Starting Hourly Wage
- Average Hourly Wage
- Experienced Hourly Wage
- Occupation Name
- SOC Number
- Minimum Education Level (indicated by color bar)
- Occupation Description

EDUCATION LEVELS

- On-the-Job Training
- Work Experience in a Related Occupation
- Postsecondary Vocational Training
- Associate’s Degree
- Bachelor’s Degree
- Master’s Degree
- Doctoral Degree

Source: Alabama Department of Industrial Relations, Labor Market Information Division.



Check Out These Three COOL CAREERS

Aquafarmer

WHAT: Cultivate freshwater fish (such as trout, catfish, and salmon) as well as shellfish, usually in large tanks where the environment can be carefully controlled.

WHO: Fish farming workers must be well versed not only in the life cycle and diseases of various forms of fish, but also in the technology necessary to manage a huge operation.



Park Naturalist

WHAT: Educate park visitors and survey national, state, and local parkland to determine the health of the park’s plant and animal life, all in the name of protecting the environment.

WHO: Park naturalists have strong people skills, and a love for and understanding of the outdoors.

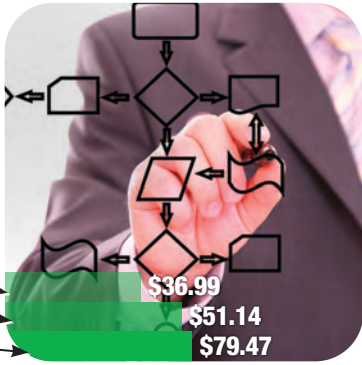


Golf Course Turf Manager

WHAT: Keep golf courses in shape by using expert knowledge of plants, irrigation systems, and golf to water, fertilize, cut, and precisely manicure the greens.

WHO: Turf managers have strong business and people skills, love golf, and know how to manage plant diseases and sprinkler systems.



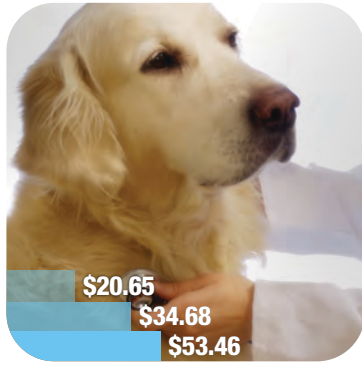


\$36.99
\$51.14
\$79.47

Natural Sciences Manager

SOC: 11-9121

Manage and oversee the work of scientists. Coordinate manufacturing and industrial processes.



\$20.65
\$34.68
\$53.46

Veterinarian

SOC: 29-1131

Treat and study animal injuries and illnesses.



\$11.10
\$16.30
\$27.51

Environmental Engineering Technician

SOC: 17-3025

Work with engineers and scientists to prevent, control, and remediate environmental health hazards.



\$7.92
\$10.42
\$12.12

Meat, Poultry, and Fish Cutters and Trimmers

SOC: 51-3022

Cut and trim meat, poultry, and fish using hand tools.

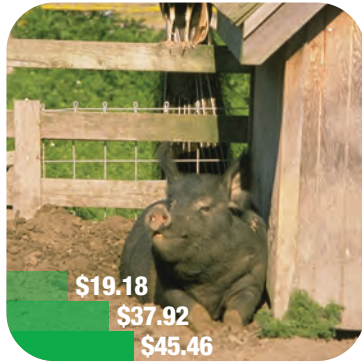


\$17.96
\$25.10
\$33.99

Occupational Health and Safety Technician

SOC: 29-9011

Protect people and the environment by helping to create cleaner, safer processes for industries and government agencies.



\$19.18
\$37.92
\$45.46

Farm, Ranch, or Other Agricultural Manager

SOC: 11-9011

Manage the agricultural and financial operations of properties including farms, greenhouses, and timber tracts.

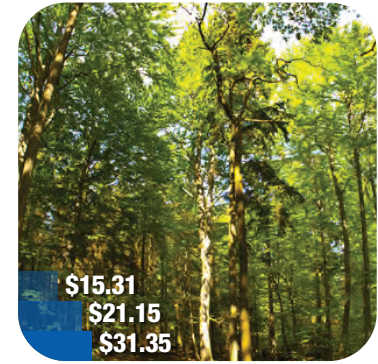


\$12.07
\$18.56
\$26.86

Water and Liquid Waste Treatment Plant and System Operator

SOC: 51-8031

Operate an entire process to transfer or treat water or liquid waste.



\$15.31
\$21.15
\$31.35

Forest and Conservation Technician

SOC: 19-4093

Lead forest workers



\$7.49
\$8.65
\$11.86

Nonfarm Animal Caretaker

SOC: 39-2021

Care for pets and other nonfarm animals in settings such as kennels, animal shelters, circuses, and aquariums.

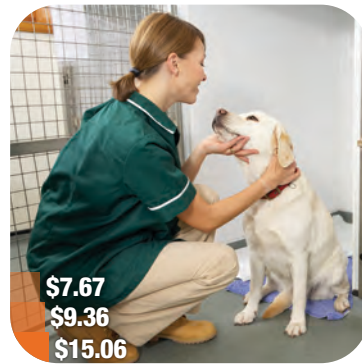


\$15.17
\$27.50
\$48.04

Biochemist and Biophysicist

SOC: 19-1021

Research the chemical processes of organisms in order to determine their effect on foods, drugs, or other substances.



\$7.67
\$9.36
\$15.06

Veterinary Assistant or Laboratory Animal Caretaker

SOC: 31-9096

Provide food, water, and routine care for animals and pets. Maintain work areas, cages, and equipment.



\$20.83
\$35.17
\$45.74

Soil and Plant Scientist

SOC: 27-1023

Conduct research related to plant growth or soil composition.

Think **Again**

Now is the time to take a fresh look at Agriculture, Food & Natural Resources careers you may not have considered before.



MYTH: Jobs in Agriculture, Food & Natural Resources do not require strong business skills.

FACTS: Almost any job in the Agriculture, Food & Natural Resources cluster will get you out in nature on a regular basis. But do not underestimate the value of business knowledge and experience in this career cluster. Most careers are likely to require you to complete and record business transactions in some fashion. Whether your plan is to raise and sell hogs, take people on fishing expeditions, or something completely different, remember that a strong business sense is essential to any career path you choose in this cluster.

Reality Check

What It Costs to Live on Your Own in Alabama

Estimated 2009–2010 monthly expenses for a 22-year-old living in Birmingham.

Note: Keep in mind that your paycheck will be reduced by about 30 percent to cover taxes, retirement, and insurance. What's left is known as your "take-home pay." Subtract 30 percent from the salaries shown on page 5 to get a more accurate take-home amount.

Cable and Internet:
\$90



Cell phone:
\$70



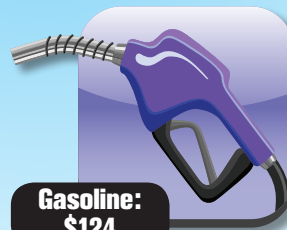
Rent and utilities:
\$700–\$800
(1-bedroom)



Groceries:
\$200–\$250



Gasoline:
\$124
(1,000 miles @ \$3.10 per gallon 25 MPG)



Car insurance:
\$30–\$95
(6-month policy)



Monthly total:
\$1,310–\$1,654
Yearly total:
\$15,742–\$19,851



Car payment:
\$350–\$450
(Used 2010/2011 4-door)



Check It OUT

Most Alabama schools offer these student organizations related to the **Agriculture, Food & Natural Resources** career cluster:



National FFA Organization

This federally chartered organization is one of the most critical CTSOs in the field of agriculture. Educational opportunities abound with FFA, particularly for students interested in Agriculture, Food & Natural Resources.



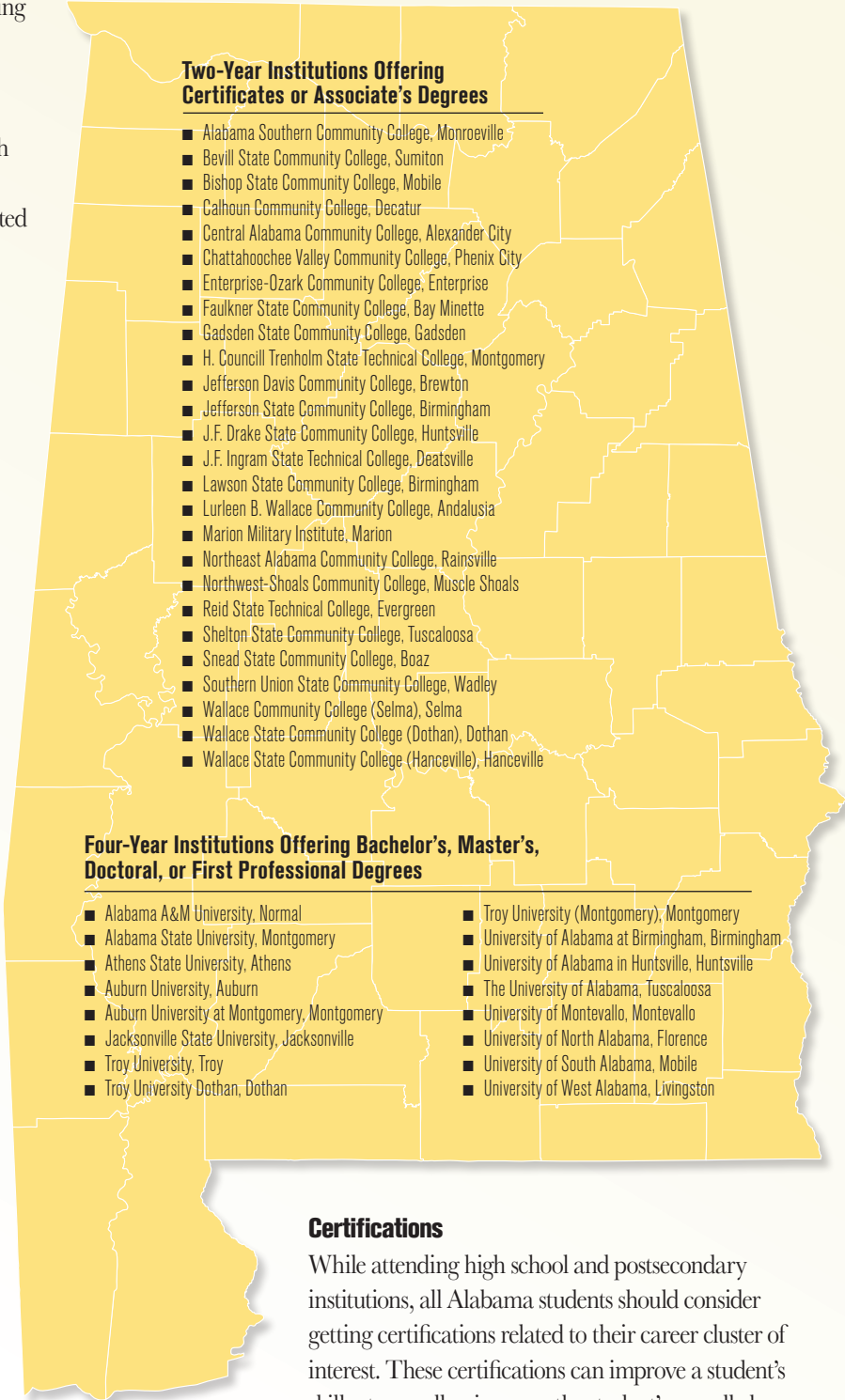
SkillsUSA

SkillsUSA is a partnership of students, teachers, and industry working to ensure American has a skilled workforce. Programs include student competitions and employer-driven training in all career and technical education areas.



Take It to the Next Level

In Alabama, the learning doesn't stop with high school graduation. Here is a list of public postsecondary (after high school) institutions that may offer programs related to this cluster.



Certifications

While attending high school and postsecondary institutions, all Alabama students should consider getting certifications related to their career cluster of interest. These certifications can improve a student's skill set, as well as increase the student's overall chance of gaining employment in the field.



GETTING READY



GRADE 9 FRESHMAN YEAR

- ◆ Research your career options based on your interests, talents, and goals.
- ◆ Choose a career cluster.
- ◆ Create an Alabama Education Plan (see page 3).
- ◆ Do your best work in all your classes. Course selection and grades really do count when you are applying to colleges and training programs.
- ◆ Keep a folder or portfolio of your activities, awards, accomplishments, and work experience, and add to it during your high school career.

GRADE 10 SOPHOMORE YEAR

- ◆ Continue building the strongest possible academic record.
- ◆ Consider taking the PLAN (pre-ACT) if you plan to apply to a two-year college or university in the future.
- ◆ Consider taking the PSAT (preliminary SAT/National Merit Scholarship Test) if you plan to apply to a two-year college or university in the future.
- ◆ Use the information in your portfolio to create a resume.
- ◆ Apply for summer jobs, internships, or volunteer activities related to your career cluster.

GRADE 11 JUNIOR YEAR

- ◆ Take the PSAT/NMSQT.
- ◆ Use resources available at your school (books, online tools, college fairs, etc.) to research postsecondary education options related to your career goals.
- ◆ Register to take either the ACT or the SAT I and SAT II Subject Tests. There are testing dates every month from January through June. Registration deadlines are approximately four weeks before each testing date.
- ◆ Apply for summer jobs, internships, and volunteer activities related to your career goals.

GRADE 12 SENIOR YEAR

- ◆ In the fall, apply to postsecondary programs and retake any standardized college admissions tests if you would like to improve your score.
- ◆ Beginning in November, complete college financial aid forms. Deadlines and required data differ from school to school, so read the instructions carefully.
- ◆ In the spring, choose your postsecondary program on the basis of where you have been accepted, costs, etc.
- ◆ Continue doing your best work. Most schools require a final transcript before making your acceptance official.



COLLEGE PREP: Getting Accepted

The college admissions process can be stressful and a bit scary, especially if you are the first in your family to apply. Give yourself the best shot at getting into a college program that matches your goals by following these five steps:

1. Make the Grade

Your grade point average really does count, so do your best work on every assignment, pay attention in class, and participate in group discussions.

2. Get Involved

Build teamwork and leadership skills by joining clubs and teams at your school, volunteering for service projects, and participating in church or community activities.

3. Make a List

Before you can apply to college, you have to figure out what you would like to study and what matters most to you (like location, size, or religious affiliation). Use the college guides in your local library, school library, or counselor's office to start making a list of colleges that interest you.

4. Plan for Tests

Most colleges want scores from the ACT, SAT, or SAT II tests. See what tests the schools on your list require, sign up to take them in time to include the scores on your application, and then practice the free SAT sample questions.

5. Be Neat and Complete

Before you send in a college application, double-check your spelling, make sure nothing is missing, and save a copy just in case you have to submit it again.

PAYING YOUR WAY: Financial Aid

Every Alabama student can afford to go to college. It just takes a little planning. Put your college dreams within financial reach by taking these five steps:

1. Consider a Community College

Alabama's public and private two-year colleges offer an affordable way to earn an associate's degree or complete enough credits to transfer into a four-year school as a junior.

2. Weigh Your Options Attending one of Alabama's four-year public or private schools cuts travel costs and other living expenses, as compared to attending schools out of state. In addition, public schools offer reduced in-state tuition, and, if there's a college nearby, you can save even more by living at home.

3. Rise to the Top

Apply to a couple of schools at which your grades and accomplishments put you near the top of the typical applicant pool. Since your application will stand out, you'll be more likely to qualify for scholarships and other merit aid.

4. Do a Little Digging

More than one million local, national, and college-specific scholarships are available each year. Ask your school librarian and counselor for help finding printed scholarship resource guides. To find and apply for scholarships online, sign up for the free college scholarship search source FastWeb.

5. Apply for Aid

Fill out the Free Application for Federal Student Aid (FAFSA) as soon as possible after January 1 of the year you'll be starting college. FAFSA forms and instruction booklets are available in your guidance counselor's office. Some schools also require the CSS/Financial Aid Profile form and others have their own financial aid forms. Carefully read each college's application to figure out what forms you need to submit and when.

Tool Box



Resource Shelf

Use these websites and other resources available from your school counselor to learn more about careers, career clusters, and educational and job opportunities in high school and beyond.

ACCESS

ACCESS (Alabama Connecting Classrooms, Educators, and Students Statewide) Distance Learning provides opportunities and options for Alabama public high school students to engage in advanced placement (AP), elective, and other courses to which they may not otherwise have access.

Alabama Career Information Network

This new Web portal increases Alabama students' and families' access to valuable career exploration activities and college financial aid information.

Alabama Commission on Higher Education

Click on "Colleges & Universities" within this website for a list of four-year institutions in Alabama.

The Alabama Community College System

Learn all about the public and private two-year colleges in Alabama. Connect directly to each school's website to see the courses, majors, degrees, and scholarships it offers to Alabama students.

Alabama Tech Prep

This booklet is sponsored by Alabama Tech Prep. The goal of Tech Prep is to create a smooth transition from high school to college and to a career.

Alabama Virtual Library

This Alabama Legislature-funded site provides all students, teachers, and citizens of the State of Alabama with online access to essential library and information resources.

America's Career InfoNet

Use this site to search for occupational information, industry information, and state-specific labor market information.

Career Voyages

This career planning resource helps students, parents, career changers, and career advisors.

O*NET (Occupational Information Network)

O*NET provides full information on occupations, including state-by-state salary data, employment prospects, and skill matching for students.

U.S. Department of Labor Occupational Outlook Handbook

A valuable resource for both counselors and students, this federal website offers updated information on careers, job responsibilities and working conditions, salaries, and what jobs will be available in the future.

Articulation agreements: formal agreements between or among educational organizations (high schools, community colleges, and universities) that allow students to receive college credit for courses taken in high school.

Associate's degree: a two-year degree awarded by a community college.

Bachelor's degree: a four-year degree awarded by a college or university.

Career and technical student organizations (CTSOs): co-curricular organizations for students that offer activities and competitions related to particular careers.

Career Clusters: identifies pathways from high schools to two- and four-year colleges, technical schools, graduate schools, apprenticeship programs, and workplace so that learners can recognize the relationship between what they learn in school and what they can do in the future.

Career Pathways: pathways are sub-groupings of occupations/career specialties. Occupations/Career specialties are grouped into Pathways based on the fact that they require a set of common knowledge and skills for career success.

Doctoral degree: a degree awarded by universities for study beyond a master's degree. May also be called a Ph.D. or a first professional degree.

Dual enrollment: a program between Alabama public colleges and universities and local boards of education that allows high school students to enroll in certain approved college-level courses to receive both high school and college credit.

ECEP (Early College Enrollment Program): a program that allows juniors and seniors to have full-time enrollment at an Alabama public college or university while still graduating with their class and staying involved with high school activities.

Extended learning experiences: participation in career and technical student organizations, co-curricular activities, job shadowing, internships, or community service.

Internship: an extended learning experience that gives students an opportunity to work temporarily at an entry-level job in a career that interests them.

Job shadowing: an extended learning experience in which students observe professionals in particular careers as they go through a day on the job.

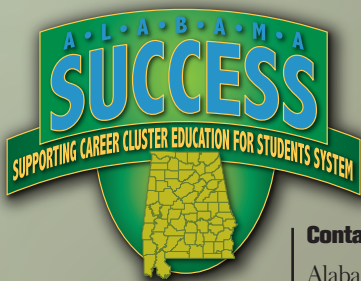
Master's degree: a degree awarded by universities for study beyond a bachelor's degree.

Postsecondary education: education beyond high school. Middle and high school are referred to as *secondary education*, so *postsecondary* means after high school.

STARS (State Transfer & Articulation Reporting System): STARS System allows public two-year students in Alabama to obtain a Transfer Guide/Agreement for the major of their choice. This guide/agreement, if used correctly, guides the student through their first two years of coursework and prevents loss of credit hours upon transfer to the appropriate public four-year university in Alabama.



Alabama Career Clusters and Pathways



Contact Information

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Non-discrimination Statement

No person shall be denied employment, be excluded from participation in, be denied the benefits of, or be subjected to discrimination in any program or activity on the basis of disability, sex, race, national origin, color, or age. Ref: Sec. 1983, Civil Rights Act, 42 U.S.C.; Title VI and VII, Civil Rights Act of 1964; Rehabilitation Act of 1973; Sec. 504; Age Discrimination in Employment Act; Equal Pay Act of 1963; Title IX of the Education Amendment of 1972; Title IX Coordinator, P.O. Box 302101, Montgomery, Alabama 36130-2101 or call (334)242-8444.

STATE OF ALABAMA • DEPARTMENT OF EDUCATION •
THOMAS R. BICE, STATE SUPERINTENDENT OF EDUCATION 9/12