Preparing students to reach their greatest potential

• Learn about Alabama SUCCESS
• Discover how career clusters can work for every student
• Get the answers to common counselor questions
• Access the career counseling resources you need
A message from …

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

Alabama SUCCESS is an invaluable resource designed specifically for students. To make their dreams of success a reality, Alabama’s students must have access to relevant resources that engage their minds and promote lifelong learning.

Students who use this resource, along with the wise recommendations of their parents, teachers, and school counselors, will be better prepared for postsecondary learning opportunities after graduation, and a lifetime of career success in the future.

Counselor,

School counselors are the key to the cluster system’s success. With career clusters, counselors will have a clear, established way of introducing students to careers and helping them achieve their highest academic and professional potential.

You have the opportunity to be part of a program that will influence the way Alabama teaches its students to think about careers. The initiative is called Alabama SUCCESS, which stands for Supporting Career Cluster Education for Students System. With the implementation of SUCCESS, Alabama is taking a major step toward making sure its students are prepared to face the workforce challenges of the future. Only through your leadership and cooperation can this important new initiative succeed.

The support and enthusiasm of counselors like you is what makes this kind of change possible. As a school counselor, you are the most important resource for helping students understand the career cluster system and the benefits it offers.

This booklet, created for Alabama school counselors, will introduce you to the career cluster system and provide you with the resources to explain its benefits to students and parents alike. It will answer key questions you may have about career clusters and help ease the transition into the new system.

S

Dear Counselor,
A career cluster is a way to organize a student’s program of study to prepare him or her for further education and/or employment in a field such as as health care, business, or manufacturing. The U.S. Department of Education has identified 16 of these career clusters, all of which include a number of diverse pathways to achieving success.

During the 2007–2008 school year, Alabama completed a revision of the 2002 Alabama Courses of Study: Career and Technical Education. This revision moves Alabama away from a five-program model and toward one based on the 16 career clusters in the States’ Career Clusters Initiative. Within the career clusters, content standards have been developed for 51 of the 81 pathways that support careers meeting the definition of high skill, high wage, and high demand. This list of pathways is based on research performed by the Alabama Department of Industrial Relations (Alabama’s labor market information agency) and the Alabama Department of Education.

Although not every school in Alabama will offer all the courses required for each cluster or pathway, individual schools and counselors will work with students to help them obtain access to the courses and career learning experiences required to successfully complete any of the pathways. This may be achieved through a variety of methods, including distance learning and dual enrollment courses.

In this guide, counselors will learn more about how to use the cluster system to help students identify and explore their career options, and create education plans for high school and beyond. The idea is to help students and parents view learning as a lifelong endeavor, not something that ends with high school graduation.

For some students, this education will continue at a two- or four-year college, and for others learning will continue in an apprenticeship, in the military, or through on-the-job training. Wherever students’ chosen paths lead them, Alabama SUCCESS is designed to prepare each one for a fulfilling future in a career that matches their skills, interests, and goals.
Why Clusters?
Clusters help students discover career pathways so they can be fully prepared for the fields they want to pursue. In today’s competitive, fast-paced work environment, it is important that students start thinking about their career futures even before they reach high school. The cluster system offers students an engaging, flexible way to look at different careers and decide what works best for them. It puts their future in their hands. When students choose clear goals through the cluster system, they are motivated to take harder classes, become leaders in co-curricular organizations, and pursue internships and other professional opportunities. Clusters help students work toward a definite purpose in high school, instead of waiting until college to pursue their career goals.

SUCCESS for All Students
Every Alabama student deserves a chance to participate and excel in the global workplace. Using SUCCESS, counselors can work together with students to help them choose courses of study that extend from eighth grade, when they choose a diploma endorsement, to graduation and beyond. Career clusters will not complicate or confuse the role of counselors: in fact, they will make discussing and deciding upon a student’s career path much easier. Each cluster includes a number of different pathways to success that give students the freedom to learn in the way that works best for them. Whether a student wishes to attend a postsecondary/higher education institution or enter the workforce right after high school, career clusters give them a clear picture of the steps they must take to achieve their dreams.

Creating Lifelong Learners
Career clusters mean all doors are open to all students. Choosing a cluster gives a student a well-established pipeline to success and offers multiple exit and entrance points. For example, with career clusters, a student who decides to enter the workforce after high school has the freedom to continue his or her education whenever and however he or she chooses. Focusing on a particular career cluster does not narrow a student’s options for the future; in fact, it increases the number of opportunities a student has as an adult. When students select a cluster, they are given the option to follow multiple pathways within each cluster. Career clusters give students the freedom to pursue new interests and develop their unexplored abilities. Students can turn their passions into professions and, in doing so, learn to love learning. The cluster system offers students a fresh, exciting way to think about their education and their futures.
Who’s Paying?

You may be wondering where the funding is coming from for such an ambitious endeavor.

Both state and federal funds will be used to develop new programs of study in the 16 cluster areas and the 51 pathways supported in Alabama. Federal funds will target those pathways leading to high-skill, high-wage, and high-demand occupations.

Career cluster initiatives such as Alabama SUCCESS support the goals of the Carl D. Perkins Career and Technical Education Act of 2006. The legislation includes an increased focus on the academic achievement of career and technical education students, strengthens connections between secondary and postsecondary/higher education, and improves state and local accountability.

A Common Vision

Career clusters have the power to unify Alabama’s education system. By adopting a clear, consistent model, educators and students statewide can communicate about career preparation in a common language. Because the cluster system is based on a national model created by the U.S. Department of Education, students can rely on the system to guide them through the rest of their professional lives, no matter where they decide to work or study.

Finding a Future

Career clusters help students of all ages find their place in the world. Students have diverse learning styles and life goals, and career clusters are designed to accommodate a wide variety of plans and achievements. When they choose career pathways, students feel empowered and purposeful. They are inspired to do their best and aim higher because they know they have the tools to get there.

Career clusters do not just benefit individual students, however. Clusters can help the entire state of Alabama move into the future and create students who are enthusiastic, ambitious, and prepared to be part of a globally competitive workforce.
Choose a career cluster. All 16 Alabama clusters are outlined on pages 6–9. Remind students and their parents that the cluster choice can be changed at any time, and that the entire education plan will be reviewed and possibly revised at least once a year.

Pick a career pathway. Multiple pathways will be available within the cluster a student chooses. The pathways are listed on pages 8 and 9. Each pathway meets the State’s recommended high school graduation requirements. As with the cluster choice, students can switch pathways at any time.

Identify a career goal. Use the list of sample occupations on pages 10 to 13 and in the Alabama SUCCESS Education and Career Planner to help students start thinking about specific jobs that interest them within their chosen clusters and pathways. Reassure them and their parents that this goal is not set in stone. It can be changed at any time, and is intended only as a motivational tool that will help students plan, stay on track, and make a solid connection between classroom and real-world careers.

Choose a postsecondary/higher education goal. The overarching mission of Alabama SUCCESS is to prepare every student for further learning and a career. By asking students to set specific postsecondary learning goals, counselors can reinforce the importance of postsecondary/higher education or training, whether it takes place on the job, in the military, at a two- or four-year college, or as an apprentice.

Key #1: Give students the tools they need

Before asking students to create Alabama Education Plans, encourage them to start thinking about their personalized programs of study by exploring existing resources. When students have control over their futures, they feel more empowered and motivated to succeed.

Start by reviewing with students the results of any interest inventories. If none were taken, ask the student to do an inventory. Use the results to assist the student and his or her parents in selecting a cluster that is academically and technically challenging, and/or that will lead to postsecondary/higher education or entry into a high-skill, high-wage, or high-demand occupation.

In addition to the interest inventories, steer students to other career exploration resources available from your office, in the school media center, and online. A resource list is included on the inside back cover of this guide.

Key #2: Help students make logical, informed choices

Logic isn’t always the strong suit of teenagers. As a counselor, you can help guide students to make logical choices based on the realities of who they are, what they enjoy doing, and what subjects are their strongest.

There are four big choices that Alabama students have to make as part of Alabama SUCCESS. If they make the choices in a logical order (outlined below), they will find the process of creating an entire education plan far less intimidating.

Ask your students to follow this simple four-step process:

Choose a career cluster.
- All 16 Alabama clusters are outlined on pages 6–9.
- Remind students and their parents that the cluster choice can be changed at any time, and that the entire education plan will be reviewed and possibly revised at least once a year.

Pick a career pathway.
- Multiple pathways will be available within the cluster a student chooses.
- The pathways are listed on pages 8 and 9. Each pathway meets the State’s recommended high school graduation requirements. As with the cluster choice, students can switch pathways at any time.

Identify a career goal.
- Use the list of sample occupations on pages 10 to 13 and in the Alabama SUCCESS Education and Career Planner to help students start thinking about specific jobs that interest them within their chosen clusters and pathways.
- Reassure them and their parents that this goal is not set in stone. It can be changed at any time, and is intended only as a motivational tool that will help students plan, stay on track, and make a solid connection between classroom and real-world careers.

Choose a postsecondary/higher education goal.
- The overarching mission of Alabama SUCCESS is to prepare every student for further learning and a career. A key component of this mission is helping students understand that education doesn’t end with high school graduation. By asking students to set specific postsecondary learning goals, counselors can reinforce the importance of postsecondary/higher education or training, whether it takes place on the job, in the military, at a two- or four-year college, or as an apprentice.

Career clusters are designed to work with Alabama’s current career counseling system. Eighth-grade students will still choose a four-year plan of study geared toward a specific diploma endorsement. SUCCESS will make this process easier for students and give them a better, more detailed idea of their options.

As you help students prepare their Alabama Education Plans, introduce the career cluster system. The list of 16 possible career clusters and 51 career pathways may seem overwhelming to them at first, so use the three counselor keys (below) to help students get started. Each key is designed to help unlock students’ potential and enthusiasm for lifelong learning by delivering the information and support they need to create plans aligned with their strengths, interests, and goals.
Key #3: Prepare for launch

Once students make these four big choices, they are well prepared to design a course schedule that meets State standards, as well as the requirements for their career clusters and pathways. Most of the slots in a student’s schedule will be filled automatically on the basis of the student’s career-related choices. Elective course options should reinforce these choices and further enhance the student’s preparation for a successful future beyond high school. Students can still choose band, varsity sports, choir, art, and other electives that may be of interest but not necessarily connected to their chosen career clusters or postsecondary/higher education goals.

SUCCESS for Middle School/Junior High School Counselors

Alabama’s middle school/junior high school counselors focus on helping students establish, identify, and balance academic, career, and personal/social goals. Efforts begun in elementary schools are continued and expanded, although an emphasis is placed on the transition into high school. Alabama SUCCESS gives middle school/junior high school counselors a set of tools to use as they help students integrate knowledge of their interests, aptitude, and academic skills into the formation of a high school four-year education plan and education/career planning portfolio for high school and beyond.

SUCCESS for High School Counselors

The high school counseling and guidance program builds on goals from the elementary and middle school/junior high school. Alabama’s high school counselors assist students in enhancing their acquired knowledge and understanding as they strive to become responsible adults. Counseling and guidance activities aligned with Alabama SUCCESS help students develop realistic and fulfilling life plans. Competency in decision making is stressed and personal responsibility is emphasized as they refine their career planning.

The high school four-year education plan and the education/career planning portfolio, developed in middle school/junior high school, move with the student to high school and are reviewed and updated annually.
Here’s a sample Alabama Education Plan for you to use as a guide as you help students create their own plan.

### Sample* Alabama Education Plan

**Name:** Jordan Smith  
**School:** Central High School  
**Diploma Option:** Advanced Career and Technical Endorsement  
**Cluster:** Science, Technology, Engineering & Mathematics  
**Pathway:** Engineering and Technology  
**Career Goal:** Biomedical Equipment Technician  
**Postsecondary Goal:** Associate in Applied Science Degree

#### Math

<table>
<thead>
<tr>
<th>Grade</th>
<th>Course</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td>Algebra I</td>
<td>English 9</td>
<td>Physical Science</td>
<td>World History 1500-1877</td>
<td>United States History to Present</td>
</tr>
<tr>
<td>10th</td>
<td>Geometry</td>
<td>English 10</td>
<td>Biology</td>
<td>United States History to 1877</td>
<td>United States History to Present</td>
</tr>
<tr>
<td>11th</td>
<td>Algebra II with Trigonometry</td>
<td>English 11</td>
<td>Chemistry</td>
<td>Government and Economics</td>
<td></td>
</tr>
<tr>
<td>12th</td>
<td>Pre-Calculus or Calculus</td>
<td>English 12</td>
<td>Physics</td>
<td>Government and Economics</td>
<td></td>
</tr>
</tbody>
</table>

#### English

- 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

#### Science

- Applied Electronic Computation
- Concepts of Direct Current
- Concepts of Alternating Current
- Concepts of Solid State Electronics
- Concepts of Digital Electronics
- Concepts of Electronic Circuits
- Circuit Fabrication
- Special Topics in I.T. (Microprocessors)

#### Social Studies

- World History 1500-1877
- United States History to 1877

#### Other Optional Courses

- Health
- Fine Arts
- Computer Applications
- Physical Education
- Foreign Language I*
- Foreign Language II*
- CTE Course I—Foundations of Engineering
- CTE Course II

#### Career and Technical Education Courses for STEM

- Foundations of Engineering
- Engineering Systems
- Engineering Research and Design
- Selected Courses from the Manufacturing Cluster
- Selected Course from the Architecture & Construction Cluster

### Community College

- Biomedical Equipment Technician Option (A.A.S.)
- Industrial Electronic Controls
- Hydraulic/Pneumatics
- Troubleshooting Techniques
- Biomedical Electronics
- Electro-Optics
- Electro-Optics Lab
- Cooperative Education

### General Education Requirements

- 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

### Higher Education

- Biomedical Equipment Technician Option (A.A.S.)
- Industrial Electronic Controls
- Hydraulic/Pneumatics
- Troubleshooting Techniques
- Biomedical Electronics
- Electro-Optics
- Electro-Optics Lab
- Cooperative Education

---

*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.
The Alabama Department of Education has adopted 16 career clusters (see below). Each cluster represents a group of related industries and occupations in the national economy. Students select a cluster based on their interests, then choose a career pathway within that cluster that best fits their abilities and goals. See pages 8–9 for the range of career pathways available in each cluster.

**Career Clusters**

- **Agriculture, Food & Natural Resources**: Processing, production, distribution, and development of agricultural commodities and natural resources.
- **Architecture & Construction**: Designing, managing, building, and maintaining the built environment.
- **A/V Technology & Communications**: Creating, exhibiting, performing, and publishing multimedia content.
- **Business Management & Administration**: Organizing, directing, and evaluating functions essential to productive business operations.
- **Education & Training**: Providing education and training services, and related learning support services.
- **Finance**: Financial and investment planning, banking, insurance, and business financial management.
- **Government & Public Administration**: Executing governmental functions at the local, state, and federal levels.
- **Health Science**: Providing diagnostic and therapeutic services, health informatics, support services, and biotechnology research.
- **Hospitality & Tourism**: Managing restaurants and other food services, lodging, attractions, recreation events, and travel-related services.
- **Human Services**: Providing for families and serving human needs.
- **Information Technology**: Designing, supporting, and managing hardware, software, multimedia, and systems integration.
- **Law, Public Safety, Corrections & Security**: Providing legal, public safety, protective, and homeland security services.
- **Manufacturing**: Processing materials into intermediate or final products.
- **Marketing**: Performing marketing activities to reach organizational objectives.
- **Science, Technology, Engineering & Mathematics**: Performing scientific research and professional and technical services.
- **Transportation, Distribution & Logistics**: Managing movement of people, materials, and goods by road, pipeline, air, rail, and water.

The career clusters icons above are used with permission of the States’ Career Clusters Initiative, 2008.
Each cluster contains multiple career pathways, also called programs of study, allowing students to focus their career ambitions even further. Here are lists of pathways for each cluster and brief descriptions you might use to talk about the cluster to students.

**Cluster 1: Agriculture, Food & Natural Resources**

**Pathways:**
- Power, Structural and Technical Systems*
- Food Products and Processing Systems*
- Plant Systems*
- Animal Systems*
- Environmental and Natural Resources Systems*
- Agribusiness Systems*

**Description for students:**
If you enjoy nature, science, or working outdoors, many career opportunities are available in the Agriculture, Food & Natural Resources cluster. Students in this cluster are preparing for exciting careers as varied as aquafarming and landscape design, fighting bioterrorism and maintaining a safe water supply.

**Cluster 2: Architecture & Construction**

**Pathways:**
- Design & Pre-Construction*
- Construction*
- Maintenance Operations*

**Description for students:**
Look around you. A team of highly skilled, hardworking people in this field.

**Cluster 3: Arts, A/V Technology & Communications**

**Pathways:**
- Audio/Video and Broadcasting*
- Printing Technology*
- Visual Arts*
- Performing Arts
- Journalism
- Telecommunications

**Description for students:**
The Arts, A/V Technology & Communications cluster stretches as far and wide as your imagination. If you’re known for your creative flair or for expressing yourself well, a wide variety of career possibilities are available to you in Alabama or wherever your adventures take you.

**Cluster 9: Hospitality & Tourism**

**Pathways:**
- Restaurants and Food/Beverage Services*
- Lodging*
- Recreation, Travel and Tourism*

**Description for students:**
Students who like travel or sports, and who enjoy meeting new people, can find plenty of exciting career opportunities in the Hospitality & Tourism cluster. Whether they are front desk clerks or football referees, tour guides or travel agents, professionals in this fast-growing field find work wherever and whenever people gather to play and relax.

**Cluster 10: Human Services**

**Pathways:**
- Early Childhood Development and Services*
- Counseling and Mental Health Services
- Family and Community Services*
- Personal Care Services*
- Consumer Services*
- Fashion*
- Interior Design*
- Food, Wellness & Dietetics*

**Description for students:**
The Human Services cluster is exactly what it sounds like—people helping people. The career opportunities in this field include social work, counseling, and family therapy; they also include being a manicurist, massage therapist, or funeral home director. If you’re a helpful person who wants to find a career in which caring counts, explore the options available in Human Services.

**Cluster 11: Information Technology**

**Pathways:**
- Network Systems*
- Interactive Media*
- Information Support and Services*
- Programming and Software Development*

**Description for students:**
If you’re the family computer whiz, enjoy figuring out how things work, and want a fast-paced high-tech career, consider one of the new jobs being created every day in the Information Technology (IT) field. In addition to having top-notch computer skills, people in this field need to be quick-thinking problem solvers who can clearly communicate instructions to others. For students who have what IT takes, jobs are available in nearly every industry across Alabama and around the world.
**CLUSTER 4**

**Business Management & Administration**

**PATHWAYS**
- Administrative Services*
- Business Information Technology*
- Business Analysis
- Business, Financial Management, and Accounting
- Human Resources
- Corporate/General Management*
- Marketing

**Description for students:**
Check out the fast-growing, high-paying world of Business Management & Administration. You could own your own company, work in a law or medical office, manage a store, or plan meetings and events. Or maybe you’d like to be an accountant, a personnel recruiter, or an agent representing an athlete, artist, or performer.

**CLUSTER 5**

**Education & Training**

**PATHWAYS**
- Administrative and Support Services*
- Professional Support Services*
- Teaching/Training*

**Description for students:**
If you enjoy learning and like sharing what you know with others, then you might make a great educator. There’s a high demand for talented teachers in Alabama in school classrooms; as corporate trainers; and as school counselors, coaches, and administrators.

**CLUSTER 6**

**Finance**

**PATHWAYS**
- Accounting*
- Corporate Finance*
- Banking Services*
- Insurance*
- Management
- Marketing

**Description for students:**
A strong finance background can take you anywhere. Companies in every industry need accountants and bookkeepers, banks in every city need tellers and bankers, and investors around the world rely on financial planners and stockbrokers. If you like money, and want to make it work for you, consider the Finance cluster.

**CLUSTER 7**

**Government & Public Administration**

**PATHWAYS**
- Governance
- Planning
- Revenue and Taxation
- Regulation
- Public Management & Administration*

**Description for students:**
The government is the biggest employer in the U.S. So if you want to prepare for a career in a field with plenty of job openings, then consider the Government & Public Administration cluster. The wide variety of career options includes tourism and transportation, accounting and animal control. Wherever there is a local, state, or federal agency or office, there is a need for qualified employees.

**CLUSTER 8**

**Health Science**

**PATHWAYS**
- Therapeutic Services*
- Diagnostic Services*
- Health Informatics*
- Supportive Services*
- Biotechnology Research and Development*

**Description for students:**
Health science professionals work in research laboratories, health clubs, and health-care facilities including hospitals, nursing homes, and physicians’ offices. Using their science and problem-solving skills, people in this cluster create new medicines, discover cures for diseases, heal and comfort the sick, and operate the high-tech tools that diagnose and treat illnesses and injuries.

---

**CLUSTER 12**

**Law, Public Safety, Corrections & Security**

**PATHWAYS**
- Correction Services
- Emergency and Fire Management Services*
- Law Enforcement Services*
- Security and Protective Services
- Legal Services*

**Description for students:**
It isn’t easy being responsible for the safety and security of others, but it can be extremely rewarding. If you want to serve and protect your community or country, then Law, Public Safety, Corrections & Security could be the career cluster for you. Future job options include being an emergency medical technician, park ranger, attorney, or security guard.

**CLUSTER 13**

**Manufacturing**

**PATHWAYS**
- Production*
- Manufacturing Production Process Development
- Maintenance, Installation, and Repair*
- Quality Assurance
- Logistics and Inventory Control

**Description for students:**
If you’re fascinated by the way things work, then you might enjoy exploring the Manufacturing career cluster. Jobs in this high-tech field involve planning, managing, and performing the processing of materials into intermediate or final products. Nearly every product we wear, use, and drive was produced by a highly skilled team of manufacturing professionals.

**CLUSTER 14**

**Marketing**

**PATHWAYS**
- Professional Sales, Sales Management*
- Merchandising*
- Marketing Communications*

**Description for students:**
If you enjoy meeting new people and like selling things, then the Marketing cluster could provide the background you need to succeed. Companies big and small need talented salespeople, customer service representatives, buyers, and brokers. This cluster is also the home of creative types, including web designers and fashion merchandisers. So if you like creating things to sell or have a knack for making a sale, check out the options available in Marketing.

**CLUSTER 15**

**Science, Technology, Engineering & Mathematics**

**PATHWAYS**
- Engineering and Technology*
- Science and Mathematics

**Description for students:**
What do iPods, cell phones, and your favorite video game all have in common? They were all created by talented STEM (Science, Technology, Engineering & Mathematics) professionals. The STEM cluster prepares students for exciting and challenging careers—many of which haven’t even been created yet. Whether you dream of curing disease; developing new energy sources; or creating better, safer, faster ways to communicate, travel, and work, explore the possibilities available in STEM.

**CLUSTER 16**

**Transportation, Distribution & Logistics**

**PATHWAYS**
- Transportation Operations
- Logistics Planning and Management Services
- Warehousing and Distribution Center Operations
- Facility and Mobile Equipment Maintenance*
- Transportation Systems/Infrastructure Planning
- Sales and Service

**Description for students:**
Transportation, distribution, and logistics professionals map out the routes, plan the schedules, and operate the planes, trains, ships, trucks, and other vehicles that deliver cargo to its destination. This career cluster also prepares people for a variety of jobs at warehouses and distribution centers, at seaports and airports, and in all branches of the military.

*Denotes Alabama pathway
Alabama’s High-Growth, High-Demand Jobs

Alabama is targeting workforce development in 13 of the 14 industries identified by the federal government’s High Growth Job Training Initiative. The initiative, which was launched in 2003, is the first step in a series of actions that the Department of Labor’s Employment and Training Administration (ETA) has taken to engage business, education, and the workforce investment system to work together to develop solutions to the workforce challenges facing high-growth industries. Fields like health care, information technology, and advanced manufacturing have solid career paths and jobs left open due to a lack of people qualified to fill them. The High Growth Job Training Initiative puts education and skills development resources toward helping workers gain the skills they need to build successful careers in these and other growing industries.

Alabama’s 13 targeted industry sectors are listed at right. Also listed are high-priority occupations within each cluster, together with a description of the cluster. To learn more about Alabama’s high-growth jobs, visit www2.dis.state.al.us/OES/OES_Posters/posters.aspx.

Advanced Manufacturing
Alabama manufacturers ranging from telecommunications companies to paper producers offer competitive salaries for entry-level workers with advanced technical skills, such as computer and robotics experience. To help meet the demand for qualified employees, many manufacturers offer tuition assistance, making it possible for young Alabama workers to afford the additional training required to advance in their careers.

FAST FACT: The manufacturing sector continues to account for 14 percent of U.S. gross domestic product and 11 percent of total U.S. employment. Moreover, manufacturing firms fund 60 percent of the $193 billion that the U.S. private sector invests annually in R&D (U.S. Department of Commerce).

Sample High-Growth, High-Demand Jobs
- Electrical and Electronic Equipment Assembler
- Electro-Mechanical Technician
- Chemical Plant and System Operator
- Machinist
- Mechanical Drafter
- Industrial Engineer
- Mechanical Engineer
- Electricians

Aerospace
Among the issues facing the Alabama aerospace workforce is the impending retirement of many mature workers who possess experience and intellectual capital. Employers in the industry must protect the skills base, including improving the basic employability skills of entry-level workers.

FAST FACT: The aerospace industry includes companies producing aircraft, guided missiles, space vehicles, aircraft engines, propulsion units, and related parts. Aircraft overhaul, rebuilding, and parts are also included (U.S. Bureau of Labor Statistics).

Sample High-Growth, High-Demand Jobs
- Production, Planning, and Expediting Clerk
- Avionics Technician
- Aircraft Mechanic and Service Technician
- Aerospace Engineer
- Aircraft Assembler
- Computer Software Engineer
- Industrial Engineer
**Automotive**
The automotive industry is a vital part of Alabama’s economy. Today, there are automotive plants in 40 of the state’s 67 counties with 24 new plants opened in 2006 and 2007. Since 2001, Alabama’s auto industry has added 21,545 jobs, an 80 percent increase.

**Fast Fact:** Between 2004 and 2014, demand for automotive service technicians and mechanics will grow as the number of vehicles in operation increases, reflecting continued growth in the number of multicar families. Additional job openings will be created thanks to the need to replace a growing number of retiring technicians, who tend to be the most experienced workers (U.S. Bureau of Labor Statistics).

**Sample High-Growth, High-Demand Jobs**
- Painter, Transportation Equipment
- Automotive Glass Installer and Repairer
- Electronic Equipment Installer and Repairer, Motor Vehicles
- Industrial Production Manager
- Computer-Controlled Machine Operator
- Tire Builder
- Welder
- Tool and Die Maker

**Biotechnology**
To succeed and grow in the 21st-century economy, Alabama’s biotechnology employers need to fill each position in their company—from entry-level to the most advanced—with qualified and skilled individuals. Because the industry is experiencing such rapid growth, biotechnology firms often demand more skilled workers than are available, and they are projected to need more workers than are currently enrolled in training programs.

**Fast Fact:** Biological technician is a key biotechnology occupation that is expected to grow by 28.2 percent between 2004 and 2014, while the occupation of biological scientist is projected to grow by 17 percent (U.S. Bureau of Labor Statistics, National Employment Data).

**Sample High-Growth, High-Demand Jobs**
- Technical Writer
- Radiologic Technologist and Technician
- Chemist
- Computer and Information Scientist, Research
- Logistician
- Medical and Clinical Laboratory Technician
- Operations Research Analyst

**Construction**
Alabama is home to a large group of construction firms, which are continually recruiting qualified high school and two- and four-year college graduates. Students who combine challenging high school coursework with on-the-job construction experience are in high demand across the state.

**Fast Fact:** Earnings in construction are higher than the average for all industries. In 2004, production or nonsupervisory workers in construction averaged $19.23 an hour (U.S. Department of Labor).

**Sample High-Growth, High-Demand Jobs**
- Cement Mason and Concrete Finisher
- Welder
- Electrician
- Cost Estimator
- Civil Engineer
- Carpenters
- Pipefitter and Steamfitter

**Energy**
The energy industry incorporates a broad range of sectors, including natural gas and petroleum (extraction, refining, and distribution through pipelines), electricity, nuclear energy, coal mining, and refining. Subsectors of the industry include oil and gas extraction, utilities (including electricity and gas transmission and distribution), and petroleum and coal products manufacturing.

**Fast Fact:** Alabama produces about one-half of the coal it consumes and produces significant amounts of natural gas offshore. The state has one of largest hydroelectric power infrastructures east of the Rocky Mountains.

**Sample High-Growth, High-Demand Jobs**
- Service Unit Operator—Oil, Gas, and Mining
- Electrical Power-Line Installer and Repairer
- Public Relations Specialist
- Electrical and Electronics Repairer—Powerhouse, Substation
- Electrical Engineer
- Data Communications Analyst
- Petroleum Pump System Operator
- Refinery Operator
Financial Services
Changes in the financial services industry will create career opportunities for young workers who have new ideas and leading-edge skills. Qualified financial services professionals are in high demand throughout Alabama in both the public sector and in private industry.

FAST FACT: The financial services industry is made up of three primary sectors: banking, securities and commodities, and insurance (U.S. Bureau of Labor Statistics).

Sample High-Growth, High-Demand Jobs
• Loan Interviewer and Clerk
• Bill and Account Collector
• Claims Adjuster, Examiner, and Investigator
• Accountant and Auditor
• Personal Financial Advisor
• Teller
• Financial Analyst
• Insurance Underwriter

Geospatial Technology
Geospatial industry professionals in Alabama acquire, integrate, manage, analyze, map, distribute, and use geographic, temporal, and spatial information and knowledge. The industry includes basic and applied research, technology development, education, and applications to address the planning, decision-making, and operational needs of local, state, federal, and private organizations.

FAST FACT: According to the Geospatial Information & Technology Association, because the uses for geospatial technology are so widespread and diverse, the market is growing at an annual rate of almost 35 percent and the commercial subsection of the market is expanding 100 percent each year.

Sample High-Growth, High-Demand Jobs
• Surveying and Mapping Technician
• Technical Writer
• Construction and Building Inspector
• Computer Systems Analyst
• Electronics Engineer
• Network Administrator
• Environmental Engineer
• Mechanical Drafter

Health Care
Of the fastest-growing occupations in Alabama, just over 50 percent are either health-related or computer-related. Two life science occupations make the list of 10 fastest-growing occupations—medical scientists and biochemists/biophysicists. The growth in these occupations is anticipated because of the growth in medical research and biotechnology in the state.

FAST FACT: Many Alabama healthcare jobs require less than four years of postsecondary/higher education, although most technical jobs require at least a two-year technical degree.

Sample High-Growth, High-Demand Jobs
• Dental Assistant
• Emergency Medical Technician and Paramedic
• Medical and Clinical Laboratory Technologist
• Pharmacist
• Medical Records Technician
• Home Health Aide
• Physical Therapy Assistant
• Respiratory Therapist
• Medical Transcriptionist

Hospitality
The diverse range of activities offered in Alabama’s hospitality industry provides excellent job opportunities for people with varied skills and education backgrounds. Jobs will be plentiful for first-time job seekers. Training for food-service managers is available through industry-sponsored seminars; short-term, subject-specific certificate programs; or associate’s and bachelor’s degree programs in management. Certification in hospitality management can be obtained through an 18-month training course or a four-year specialized bachelor’s degree.

FAST FACT: The Restaurant, Hotel, and Meetings Management program at the University of Alabama is the only four-year program in the U.S. providing courses through distance learning to the prestigious eArmyU, the U.S. Army’s largest e-learning university program.

Sample High-Growth, High-Demand Jobs
• Landscaping and Groundskeeping Worker
• Employment Recruitment Specialist
• Baker
• Food Service Manager
• Fitness Trainer
• General and Operations Manager
• Recreation Worker
• Lodging Manager
Information Technology

More than 90 percent of information technology (IT) workers are employed outside the IT industry, which makes it necessary for them to have complementary training in their respective business sectors, such as health care, manufacturing, or financial services. Employers are also looking for well-developed soft skills, transferable IT skills, and adaptability in the workforce.

Fast Fact: Alabama students interested in becoming computer support specialists generally need only an associate's degree in a computer-related field, as well as significant hands-on experience with computers.

Sample High-Growth, High-Demand Jobs
- Sales Representative, Technical and Scientific
- Computer and Office Machine Repairer
- Computer Programmer
- Computer Software Engineer, Applications
- Training and Development Specialist
- Systems Administrator
- Financial Analyst

Retail Trade

Alabama’s retail trade careers encompass customer service and sales, as well as information technology, marketing, communications, loss prevention, finance, and merchandise sourcing. Retailers employ almost 1 in 6 Alabama employees, and the annual payroll for retailers in the state exceeds $4 billion.

Fast Fact: The retail trade sector provides the most jobs of any sector in the nation. The sector is expected to add 1.6 million new jobs, reaching 16.7 million, by 2014, and will continue to be the dominant source of employment and the largest source of employment growth (U.S. Bureau of Labor Statistics).

Sample High-Growth, High-Demand Jobs
- Parts Salesperson
- Advertising Sales Agent
- Service Station Attendant
- First-Line Supervisor/Manager of Retail Workers
- Hairdresser, Hairstylist, and Cosmetologist
- Pharmacist
- Heating/Air Conditioning and Refrigeration Mechanic
- Customer Service Representative

Transportation

The Alabama transportation industry is currently seeking to develop a pipeline of younger workers to help industry employers meet their workforce needs. Specifically, employers are looking to help high school and community college graduates successfully enter the transportation industry.


Sample High-Growth, High-Demand Jobs
- Truck Driver, Heavy and Tractor-Trailer
- Transportation, Storage, and Distribution Manager
- Captain, Mate, and Pilot of Water Vessels
- Aircraft Mechanic and Service Technician
- Painter, Transportation Equipment
- Mechanical Engineer
- Avionic Technician
- Locomotive Engineer
- Railroad Brake Signal, and Switch Operator
Alabama school counselors are the key to the cluster system’s success. As a counselor, you are on the front lines of career and postsecondary/higher education planning. Although you already deal with many components of Alabama SUCCESS, implementing the new system across the board will inevitably have an impact on how you do your job.

This FAQ section was created to address and possibly alleviate many of the concerns counselors may have about Alabama SUCCESS.

**Frequently Asked Questions (and answers) about career clusters**

**Q** Will the flexibility of career clusters still give students the direction they need?

**A** Yes. The system is flexible enough to allow for academic and career exploration, but ultimately gives students a firm foundation for success in the fields of their choice. Career clusters include diverse learning styles and measures of achievement, meaning that every student will find a way to succeed in his or her chosen field.

**Q** Will implementing career clusters create more work for counselors?

**A** No. In fact, career clusters should make a counselor’s job considerably easier. By matching their goals with the specific steps laid out in the career pathways, students will be able to take ownership of their educations.
Career clusters definitely benefit students, and so the implementation of a statewide career cluster system for all students will greatly improve a counselor’s ability to provide meaningful career counseling. The cluster system ties together what students are doing in school with what they want to do in life. It’s a practical tool that provides a clear way for us to counsel our students. Beginning in eighth or ninth grade, we can begin to show students the routes that they need to follow to be whatever they want to be for the rest of their lives. The programs of study interconnect, so regardless of what area of the cluster they choose, they are still qualified to move between similar pathways.

What if a student’s chosen profession fits into multiple clusters?

Review the student’s standardized test scores, transcript, and interest inventory results to help direct the student to the career cluster that best matches his or her strengths, interests, and goals. Although certain occupations do fit into multiple clusters, a closer look at the student’s record will help determine the most appropriate choice. Remember, the cluster can be changed at any time, so the goal is simply to make the best possible first choice based on the available information.

How will career clusters affect elementary and middle school/junior high school counselors?

Elementary school counselors can incorporate the clusters into the age-appropriate career awareness activities they provide. Career clusters can be used to help middle schoolers/junior high schoolers distinguish among different professional fields and gain a better understanding of how they can turn their studies and interests into a job they enjoy. By building career awareness from kindergarten through middle school/junior high school, students will be better prepared to complete their Alabama Education Plans in eighth grade.

How does the current Alabama Education Plan that students prepare change with the introduction of Alabama SUCCESS?

If you’re already creating and updating education plans with students that map out courses and related career learning opportunities for high school and beyond, then the change will be minimal. The addition to the plan will be the choice of a career cluster and career pathway for all students. Now, as part of the goal to ensure that every Alabaman is prepared for a successful future, all students will be required to choose a cluster, pathway, career, and postsecondary/higher education goal, as well as related extracurricular activities and career learning experiences.
Encourage students to get a head start on their future

For some students, the idea of extending education beyond high school graduation may seem unnecessary, too expensive, or otherwise unavailable to them. To help students realize the value of postsecondary/higher education learning and the opportunities available to them right here in Alabama, spend some time explaining the different ways students can earn college credits while in high school.

Here are some programs and institutions already in place in Alabama that can be incorporated into a student’s education plan, and that may offer supplemental resources for counselors and students.

Articulation agreements between high schools and community colleges
Alabama has strong statewide articulation agreements, which enable students to complete a sequence of academic and technical coursework starting in high school and continuing through a community college located anywhere in the state. This program provides students with the opportunity to eventually earn either an associate’s degree or a two-year certificate in a career technical field from an accredited college.

Dual enrollment/dual credit programs
Dual enrollment/dual credit programs established between Alabama community colleges and universities and local boards of education allow high school students to enroll in certain approved college-level courses concurrently with high school classes to receive both high school and college credit.

Early College Enrollment Program (ECEP)
Alabama’s ECEP gives qualified high school juniors and seniors an opportunity to earn college credit and at the same time meet high school graduation requirements. To be eligible for participation, students must pass all sections of the Alabama high school graduation exam before entering the program, must have declared a postsecondary/higher education career and technical education major, must have at least a 2.5 grade point average in high school courses, and must have approved scores on the ACT or Compass placement test.

Local community colleges
Local community colleges offer a wealth of low-cost and no-cost learning opportunities for students, parents, and counselors. Counselors are encouraged to get to know their local community colleges, find out what programs are available, and, if possible, meet with the admissions staff to talk about what area schools could be doing to better prepare students for success at the college level. Alabama’s vibrant community college system provides an affordable option, often close to home, for students to earn an associate’s degree or certificate, launch a career, or earn the core credits needed to transfer to a four-year institution.
Meet an ECEP Student

Lindsey Schnecker
Senior, Chelsea High School
Chelsea, Alabama

Lindsey Schnecker says she “wasn’t cut out for the high school environment.” Despite being a determined and disciplined student, Schnecker felt that the everyday routine of high school didn’t fit her personality or learning style.

For advice, she turned to her school counselor at Chelsea High School, who suggested that Schnecker and her parents explore the opportunities available at nearby Jefferson State Community College through Alabama’s Early College Enrollment Program (ECEP).

“With ECEP, I can still go to prom, stay involved with high school activities, and graduate with my class, but I also can attend college full time as part of a dual enrollment agreement,” says Schnecker. “I can try different courses, get ahead in my education and career, and still be a high school student. It was exactly what I needed.”

Schnecker enrolled in 14 credit hours at Jefferson State during the first semester of her senior year in high school. Her schedule combined physical science, English, math, economics, science, and a culinary course. At this point, Schnecker is mapping out an education plan that could lead to a career combining her interests in catering, interior design, and event planning. She believes that participating in ECEP will give her the preparation she needs to achieve her goal on an accelerated schedule.

“I’ll earn my two-year degree a year after my high school degree, which is pretty amazing,” adds Schnecker. “For students who are organized, can manage their time, and are independent, I would highly recommend ECEP. It’s affordable, plus no one is telling you what to do every hour of the day. It takes discipline—but if high school isn’t the right fit for a student, ECEP could be the solution.”

Incorporating clusters into a student’s diploma choice

Alabama students can choose from a number of diploma endorsements. If students don’t make a choice, they are automatically enrolled to pursue the Advanced Academic Endorsement. Career clusters are designed to work with all of these diploma choices. Talk with students and parents about what’s required for each diploma, and which option best fits the student’s strengths and goals.
Talking to parents about Alabama SUCCESS

Alabama SUCCESS will change the way students choose courses and experience high school. This change will be beneficial and positive; however, many parents will have concerns about how this new system will impact their child. As a counselor, you can help alleviate their fears and help build community support for Alabama SUCCESS by promoting the benefits of career clusters and pathways in your discussions with parents.

Use these basic talking points as you meet with parents in information sessions, in student counseling sessions, and in small group discussions.

**Alabama SUCCESS…**

1. **Promotes Career Awareness**
   Success in the workplace starts in the classroom. Career clusters will give students a better understanding of their career options and what steps they must take to reach their goals. Students gain an understanding of how a strong academic and co-curricular background can lead to a rewarding career.

2. **Benefits Every Student**
   Career clusters can be part of every student’s well-rounded education. No matter whether a student plans to enter college, the military, or the workforce right after high school, he or she needs to consider the occupational options early and follow a coherent pathway through graduation and on to the appropriate type of postsecondary/higher education or employment.

3. **Provides a Personalized Plan**
   Students have diverse learning styles and life goals. With career clusters, students can tailor their academic and professional plans to meet their interests and ambitions. The cluster system allows students to claim ownership of their futures and create unique programs that suit their abilities and goals. What students learn in school becomes connected to usable skills and definite objectives, giving students the motivation and enthusiasm to concentrate on their studies. When students truly enjoy what they are learning and can link it to a real-world context, they become eager to excel.

4. **Gives Students Goals**
   In the cluster system, students choose a career clusters that fit their interests, then select pathways of study within those clusters. This lets students graduate from high school with clear ideas of what they want to do, what careers they can pursue, and what other qualifications or training they may need to acquire to reach their goals.

5. **Encourages Ownership of Education**
   Students can take responsibility for their own educations and career planning with the cluster system. By using the education plan and career clusters together, students have real power over what they aim for and can accomplish. By putting the control in the student’s hands, counselors and parents can ensure that students are committed to their schooling and their futures.

6. **Meets State Standards**
   By giving students straightforward, comprehensive paths through high school, career clusters ensure that every student will meet Alabama’s graduation requirements.

7. **Is Flexible**
   Only through career exploration can students discover what fields are right for them. Career clusters open up new possibilities and offer students the chance to change directions or move between disciplines if they so choose.

8. **Creates a Partnership**
   Career clusters offer parents a chance to get involved with their students’ career goals and interests. Parents can work with counselors to help guide students and contribute valuable experience and advice to students choosing and pursuing clusters. They can also increase career awareness by visiting the classroom to talk about their professions, coordinating discussions with family and friends who work in fields of interest to their children, and providing input when students create their education plans.
Talking points for discussing career clusters with young people

Students will need your expert guidance to understand why they should be interested in career clusters and pathways. Here are some key talking points to share with students as you meet with them and their parents about education and career choices.

“Career clusters offer you the opportunity to take control of your education and career choices.”
Explain to students that career clusters help them take charge of their own futures. They will receive support from counselors, teachers, and their parents, but the decisions about what to study and how to pursue their goals is in their own hands under a cluster system.

“Career clusters give you the chance to explore what you really want to do with your life.”
Let students know that through Alabama SUCCESS they will have the opportunity to try out different career possibilities. Make it clear that no one is forcing them to choose a future occupation while they are teenagers. Instead, show them that they will be able to explore a wide range of jobs while they are still young and have the freedom to easily change directions.

“Career clusters connect what you learn in school to the real world.”
No one has to tell you that motivating some students to stay in school and not drop out or tune out is a tremendous challenge. Career clusters and pathways show those at-risk students that what they learn in class connects to real careers. This can provide the incentive for them to graduate high school, then move on to postsecondary/higher education.

“Career clusters give you a clear plan to follow.”
Some students may feel overwhelmed by the choices and freedom that career clusters offer. It is important to stress the flexibility of the system and that it opens up new opportunities rather than restricts them. Show them that there are clear pathways in place that they can follow from high school into postsecondary/higher education and on to employment. Explain that this plan can be altered at any time.

“Career clusters give you the skills you need to succeed.”
Today’s job market is all about skills, both specific technical skills and “soft” skills, such as the ability to work in a team or communicate. Show students how career clusters offer them the opportunity to acquire the valuable skills they need to succeed in today’s competitive workforce.

“Career clusters help you compete for college and jobs.”
Whether students are aiming for college or a career right out of high school, they are facing a highly competitive pool of applicants. Remind students that studying within career clusters shows college admissions officers and potential employers that the students have thought carefully about their futures—something that often separates them from their peers.

“Career clusters help you reach your greatest potential.”
Reassure students that the career cluster system is not a one-size-fits-all approach to career exploration and education. Instead, it is designed to help every student discover his or her unique possibilities, passions, and potential.
With the support of Alabama’s co-curricular programs and articulation agreements, students can pursue any cluster they choose, even if it is not specifically offered at their schools. Here are some examples of career and technical student organizations (CTSOs) in Alabama that can help round out a student’s career cluster experience.

- **Distributive Education Clubs of America (DECA)** • [www.deca.org](http://www.deca.org)
  DECA, a national association of more than 170,000 marketing students, provides members with hands-on experiences in the fields of marketing, management, and entrepreneurship.

- **Family, Career and Community Leaders of America (FCCLA)**
  [www.fcclainc.org](http://www.fcclainc.org)
  FCCLA offers Alabama students the opportunity to expand their leadership potential and develop skills for life, such as planning, goal setting, problem solving, decision making, and interpersonal communication.

- **FFA (association for agriscience education students)** • [www.alabamaffa.org](http://www.alabamaffa.org)
  FFA members develop their potential for leadership, personal growth, and career success through agricultural education, competitions, and conferences.

- **Future Business Leaders of America–Phi Beta Lambda (FBLA–PBL)**
  [www.fbla-pbl.org](http://www.fbla-pbl.org)
  FBLA–PBL is the largest business student organization in the world. Its mission is to prepare today’s students for success in business leadership.

- **Health Occupations Students of America (HOSA)** • [www.hosa.org](http://www.hosa.org)
  HOSA’s mission is to enhance the delivery of compassionate, quality health care by providing opportunities for knowledge, skill, and leadership development of all health science technology students.

- **SkillsUSA (association for students in technical, skilled, and service careers, including health careers)**
  Alabama SkillsUSA emphasizes respect for the dignity of work, high standards in trade ethics, superior workmanship, quality, and safety.

- **Technology Student Association (TSA)** • [www.tsaweb.org](http://www.tsaweb.org)
  TSA prepares students to meet the challenges of a high-tech world by promoting technological literacy, leadership, and problem-solving skills. Members have opportunities to develop and showcase their technology skills through individual and team competitions.
Resources for Counselors
Career guidance resources for Alabama school counselors

Alabama Education Tools

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.

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 Commission on Higher Education
Click on “Colleges & Universities” in 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.

Career Exploration

America’s Career InfoNet
Use this site to search for occupational information, industry information, and state-specific labor market information.

Career Voyages
This is a career planning resource for students, parents, career changers, and career advisors.

O*NET (Occupational Information Network)
O*NET provides full information on occupations, including state-by-state compensation data, employment prospects, and skill matching for students.

U.S. Department of Labor Occupational Outlook Handbook
An invaluable resource for both counselors and students, this federal site offers updated information on careers, job responsibilities and working conditions, earnings, and future hiring projections.

Career Counseling

Alabama Department of Industrial Relations—Alabama Wage Survey
This site includes employment and wage information for occupation groups and specific jobs statewide and within selected regions throughout the state. Counselors can use the information, based on data from Alabama’s May 2007 Occupational Employment Report, to give students a better sense of real job opportunities in the state and what they could expect to earn in a specific career.

Jobs for Alabama’s Graduates
This program for at-risk high school youth follows the national model established by Jobs for America’s Graduates. Today, JAG–Alabama operates 17 programs serving students in grades nine through 12. JAG model programs are designed to identify students who face a significant number of barriers to staying in school and to help them complete a high school diploma, secure an entry-level quality job that leads to a career, or pursue postsecondary/higher education. JAG model programs regularly exceed a 90 percent graduation rate, with at least 80 percent of graduates experiencing a positive outcome (i.e., they are employed, in the military, or pursuing postsecondary/higher education) during the 12-month post-graduation follow-up period.