CAREER PLANNING GUIDE

CAREER, TECHNICAL AND AGRICULTURAL EDUCATION

Winder-Barrow High School Edition

2019-2020
Greetings Barrow County Students,

Preparing students for success after high school is an inherent component of the Barrow County School System’s vision. Whether you plan to enter the workforce immediately or attend college after high school graduation, high school course options will impact your future so I encourage you to give it careful consideration. To better prepare you for the demands of the 21st century economy and for post-secondary education, please utilize this guide to set career goals and plan for the world of work. This planning guide shows the clear connection between class work and your future success. I encourage you to talk to your parents, teachers and counselors to help select the best path for you. We are excited about your future possibilities, and we are always Boldly Committed to Your Success!

Chris McMichael, Ed.D.
Superintendent
Barrow County School System

Barrow County, Georgia boasts a diverse economy, and according to the U.S. Census Bureau, it’s one of the nation’s fastest growing counties. Agribusiness, distribution & logistics, manufacturing and more in Barrow County drive the area’s modern economy. Barrow County is an excellent location for business in Georgia due to the level of workforce training available to students still in the Barrow County School System or attending Lanier Technical College.

Guy W. Herring
Director, Barrow County Economic & Community Development

Boldly Committed to Student Success

Barrow County School System is an Equal Opportunity Educator/Employer with established policies prohibiting discrimination on the basis of age, race, creed, religion, color, sex, national origin, disability or handicap, sexual orientation, or political affiliation in an educational program, activity, or employment in the district and provide equal access to the Boy Scouts and other designated youth groups.
PATHWAY REQUIREMENT

As part of the Barrow County School System graduation requirements, students are required to choose a pathway to complete while in high school.

Pathways consist of three (3) courses in a related area that are taken sequentially.

Students choose from the following areas:
- Career, Technical, & Agricultural Education (CTAE)
- World Languages (Spanish)
- Fine Arts (Art, Band, Chorus, Drama)

CHOOING A PATHWAY

Beginning in elementary school and continuing through high school, students are exposed to a variety of career development activities to lead them towards making potential career decisions. While it is not expected that students know exactly what they want to be when entering high school, it is the hope that students have begun making some decisions that are guiding their education. The career development activities that students have been exposed to should serve as a good starting point when students begin to pick a pathway.

While it is required that students complete one pathway to graduate, most students will have the opportunity to complete two or possibly three pathways before graduation, providing multiple opportunities for students to explore their interests.

Pathways are offered at multiple locations and students should pay attention to the location of each course when choosing classes.

Career Planning Resources:
https://www.gafutures.org/career-exploration/georgias-career-clusters-and-pathways/

CTAE PATHWAYS

Career-focused planning will lead you to selecting a Career, Technical and Agricultural Education (CTAE) pathway. CTAE provides academic skills and real-world experiences necessary to build fulfilling careers in the 21st Century.

In CTAE programs and courses, students are prepared for post-secondary education and for the workplace. Career, Technical and Agricultural Education is a vital component of the total education of an individual and is available to every high school student in the Barrow County School System.

Advisors, counselors, teachers, and parents are all great resources to help students begin making important decisions about their future!
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- Agricultural Mechanics Systems ................................................................. 4
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AGRICULTURAL MECHANICS SYSTEMS

Agricultural education is the teaching of agriculture, natural resources, and land management through hands on experience and guidance to prepare students for entry level jobs or to further education to prepare them for advanced agricultural jobs.

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Basic Agriculture Science - 02.47100
This course is designed as an introduction or support course for the Agriscience Pathway Program of Study. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Course 2—Agricultural Mechanics I - 01.42100
This laboratory course is designed to provide students with introductory level experiences in selected major areas of agricultural mechanics technology which may include small engine maintenance and repair, metal fabrication, wood working, electrical wiring, and maintenance of agricultural machinery, equipment, and tractors. Learning activities include information, skill development, and problem solving.

Course 3—Agricultural Mechanics II - 01.42200
The goal of this laboratory course is to offer students intermediate level experiences in selected major areas of agricultural mechanics technology which may include small engine maintenance and repair, metal fabrication, concrete construction, building construction, plumbing, electrical wiring, soil and water conservation, and maintenance of agricultural machinery, equipment and tractors. Learning activities include information, skill development, and problem solving.

Check out these schools that offer majors related to the Agriculture Industry…

Abraham Baldwin Agricultural College
Fort Valley State
University of Georgia

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Agriculture Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Engineer</td>
<td>$57,762</td>
</tr>
<tr>
<td>Farm Equipment Mechanic</td>
<td>$30,618</td>
</tr>
<tr>
<td>Industrial Machinery Mechanic</td>
<td>$38,522</td>
</tr>
<tr>
<td>Industrial Truck &amp; Tractor Op</td>
<td>$26,894</td>
</tr>
</tbody>
</table>

The National FFA Organization is an American youth organization, specifically a career and technical student organization, based on middle and high school classes that promote and support agricultural education. The organization was founded in 1928 as Future Farmers of America, but in 1988 the name was changed to the National FFA Organization, now commonly referred to as simply FFA, to recognize that the organization is for those with diverse interests in the food, fiber and natural resource industries, encompassing science, business and technology in addition to production agriculture. For More Information: Georgia FFA - www.georgiaffa.org; National FFA - www.ffa.org
AGRICULTURAL MECHANICS & METAL FABRICATION

Agricultural education is the teaching of agriculture, natural resources, and land management through hands-on experience and guidance to prepare students for entry level jobs or to further education to prepare them for advanced agricultural jobs.

PATHWAY COURSE & DESCRIPTIONS:

**Course 1—Basic Agriculture Science - 02.47100**
This course is designed as an introduction or support course for the Agriscience Pathway Program of Study. The course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**Course 2—Agricultural Mechanics Technology I - 01.42100**
This laboratory course is designed to provide students with introductory level experiences in selected major areas of agricultural mechanics technology which may include small engine maintenance and repair, metal fabrication, wood working, electrical wiring, and maintenance of agricultural machinery, equipment, and tractors. Learning activities include information, skill development, and problem solving.

**Course 3—Agricultural Mechanics Fabrication - 01.42200**
This course is designed to provide students with a more in-depth study of agricultural metal fabrication. Students interested in agricultural mechanics will have the opportunity to explore the many career possibilities in the field of agricultural metal fabrication. Additionally, hands-on-laboratory activities enhance the classroom learning experience and provide students with the skills needed to participate in Supervised Agricultural Experience Programs and FFA Career Development Events.

Check out these Georgia schools that offer majors related to the Agriculture Industry...

- Abraham Baldwin Agricultural College
- Auburn University
- Florida State University
- Fort Valley Valley State
- Texas A&M
- University of Georgia

<table>
<thead>
<tr>
<th>HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?</th>
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<tbody>
<tr>
<td>Agriculture Careers</td>
</tr>
<tr>
<td>Annual Wages</td>
</tr>
<tr>
<td>• Agricultural Education Teacher             $56,130</td>
</tr>
<tr>
<td>• Agricultural Engineer                      $57,762</td>
</tr>
<tr>
<td>• Environmental Engineer Tech                $34,112</td>
</tr>
<tr>
<td>• Environmental Engineer                      $65,749</td>
</tr>
<tr>
<td>• Env Compliance Inspector                    $51,667</td>
</tr>
<tr>
<td>• Welder                                      $42,267</td>
</tr>
</tbody>
</table>

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PLANT & FLORAL DESIGN SYSTEMS

A career in plant science and floral design systems offers a variety of job opportunities in the fields of education, research, golf and sports turf, landscape design, parks and gardens, public service, production management, and sales and marketing. Some jobs available include landscape designer, greenhouse manager, golf course superintendent, plant breeder, florist, agricultural chemical researcher and garden center owner.

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Basic Agriculture Science - 02.47100
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course presents introductory skills and knowledge in agricultural science and agri-related technologies. The course covers: • Plant and Animal Basics • Environment and Natural Resources • Land Management • Mechanical Agriculture Operations • Opportunities to Compete

Course 2—General Horticulture and Plant Science - 01.46100
This course introduces the major concepts of plant and horticulture science. The course covers: • Greenhouse use • Classifying Plants and Trees • Lawn and Garden Equipment • Floral Designing • Gardening for Healthy Living • Soil Science. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Course 3—Floral Design and Management - 01.46600
This laboratory course is designed to prepare students to apply systematic business procedures and design principles in the operation of a retail or wholesale floral business. Students will learn about the cut flower industry, the history of floral design, identification of flowers and foliage, design shapes, mechanics of design, everlasting flowers, and use knowledge and skills to create custom design work for special occasions.

Check out these Georgia schools that offer majors related to the Agriculture Industry…

Chattahoochee Technical College
Georgia State University
Gwinnett Technical College
Lanier Technical College
Technical College System of Georgia

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<table>
<thead>
<tr>
<th>Agriculture Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floral Designer</td>
<td>$25,280</td>
</tr>
<tr>
<td>Landscaping &amp; Groundskeeping</td>
<td>$26,320</td>
</tr>
<tr>
<td>Retail Store Manager</td>
<td>$39,040</td>
</tr>
</tbody>
</table>

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PLANT AND LANDSCAPE SYSTEMS

Develop your skills in Georgia’s dynamic Green Industry by developing your knowledge and skills to join the select few who pass the certification requirements to become a Certified GGIA Jr. Plant Professional. Also, learn how to live a healthier lifestyle through work in our gardens and a better way to enhance the beauty of our environment by building and maintaining quality landscapes on campus and in the community. You will learn business, science and industry techniques while working in the greenhouse, landscaping our campus, and growing and maintaining turf plots. If this appeals to you, then the Plant and Landscape Systems pathway is for you! In this pathway, laboratory and classroom activities are supplemented through supervised agricultural experiences and leadership activities.

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Basic Agriculture Science - 02.47100
This course is designed as the foundational course for all Agriculture, Food & Natural Resources Pathways. The course presents introductory skills and knowledge in agricultural science and agri-related technologies. The course covers: • Plant and Animal Basics • Environment and Natural Resources • Land Management • Mechanical Agriculture Operations • Opportunities to Compete

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Course 3—Nursery and Landscape - 01.47000
This course is designed to provide the basic skills and knowledge utilized by the green industry in nursery production and management and landscape design and management. The course covers: • Development of Landscaping Expertise • Use of Commercial Landscaping Equipment • Focus on Environmental Concerns • Leadership Development

Check out these Georgia schools that offer majors related to the Agriculture Industry…

- Abraham Baldwin Agricultural College
- Fort Valley State University
- Gwinnett Technical College
- Lanier Technical College, University of Georgia
- North Georgia Technical College
- University of North Georgia

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<table>
<thead>
<tr>
<th>Agriculture Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil &amp; Plant Scientist</td>
<td>$68,100</td>
</tr>
<tr>
<td>Environmental Specialist</td>
<td>$51,000</td>
</tr>
<tr>
<td>Agriculture Education Teacher</td>
<td>$42,000</td>
</tr>
<tr>
<td>Landscape Architect</td>
<td>$62,400</td>
</tr>
<tr>
<td>Plant Nursery Manager</td>
<td>$69,000</td>
</tr>
<tr>
<td>Floral Designer</td>
<td>$25,500</td>
</tr>
<tr>
<td>Farm Manager</td>
<td>$69,000</td>
</tr>
<tr>
<td>Surveyor</td>
<td>$49,500</td>
</tr>
</tbody>
</table>

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PATHWAY COURSE & DESCRIPTIONS:

Course 1—Basic Agriculture Science - 02.47100
This course introduces the major areas of scientific agricultural production and research; presents problem solving lessons and introductory skills and knowledge in agricultural science and agri-related technologies. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.
- Livestock Breed Identification • Soil Formation and Management - Wildlife Identification • Animal Growth and Production
- Leadership Skills

Course 2—Animal Science & Biotechnology - 02.42100
This course is designed to introduce students to the scientific principles that underlie the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.
- Breeding of Agricultural Animals • Processing and Distribution of Animal Products • Livestock Nutrition • Economics of Livestock Industry. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Course 3—Veterinary Science - 02.42400
This course covers the basics of animal care. Students will investigate animal body systems and learn to look for signs of disease. Students will also learn various procedures and methods used in veterinary hospitals.
- Disease • Parasites • Feeding • Shelter • Grooming • Animal Nutrition

Check out these schools that offer majors related to the Agriculture Industry…

Abraham Baldwin Agricultural College
Fort Valley State
University of Georgia

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<thead>
<tr>
<th>Agriculture Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veterinarian</td>
<td>$79,280</td>
</tr>
<tr>
<td>Veterinarian Teacher</td>
<td>$27,380</td>
</tr>
<tr>
<td>Animal Breeder</td>
<td>$37,670</td>
</tr>
<tr>
<td>Animal Trainer</td>
<td>$25,550</td>
</tr>
<tr>
<td>Zoologist</td>
<td>$50,440</td>
</tr>
<tr>
<td>Farm/Ranch Manager</td>
<td>$71,180</td>
</tr>
</tbody>
</table>

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Architectural Drawing & Design Careers

• Architect/Draftsman - $51,640
• Architect - $76,930
• Civil Engineer - $83,540

Check out these schools that offer majors related to the Architecture and Construction Industry...

- Atlanta Technical College
- Georgia Piedmont Technical College
- Lanier Technical College
- North Georgia Technical College
- Technical College System of Georgia

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Introduction to Drafting and Design - 48.54100
Introduction to Drafting and Design is the foundational course for the Architectural Drafting and Design pathway. Emphasis is placed on safety, geometric construction, fundamentals of computer-aided drafting, and multi-view drawings. Students learn drafting techniques through the study of geometric construction at which time they are introduced to computer-aided drafting and design. The standards are aligned with the national standards of the American Design Drafting Association (ADDA).

Course 2—Architectural Drawing and Design I - 48.54500
Architectural Drawing and Design I introduces students to the basic terminology, concepts, and principles of architectural design. Emphasis is placed on house designs, floor plans, roof designs, elevations (interior and exterior), schedules, and foundations. The standards are aligned with the drafting and design standards in Georgia’s technical colleges, thus helping students qualify for advanced placement to continue their education at the postsecondary level.

Course 3—Architectural Drawing and Design II - 48.54600
Architectural Drawing and Design II builds on the skills developed in Architectural Drawing and Design I. Emphasis is placed on the design process, site plans, electrical plans, plumbing plans, sections and details, project presentations, and a course portfolio. The standards are aligned with the drafting and design standards in Georgia’s technical colleges, thus helping students qualify for advanced placement should they continue their education at the postsecondary level. Students who successfully complete this and other drafting courses should be prepared to take an End of Pathway Assessment.

Drawing and design is the process of turning ideas of how things should be constructed into technical drawings. These drawings are based on sketches and calculations made by engineers, surveyors, architects and/or scientists. The drawings provide visual guidelines such as dimensions, materials to be used, and procedures to be followed to build everything from manufactured products such as spacecraft, automobiles, and industrial machinery to structures such as homes, office buildings, and oil and gas pipelines.

SkillsUSA is the Career & Technical Student Organization for Construction. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Carpentry, Masonry, Plumbing, Woodworking Display, and much more.

For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
ARCHITECTURE AND CONSTRUCTION

PATHWAY COURSE & DESCRIPTIONS:

Course 1 — Industry Fundamentals and Occupational Safety - 46.54500
This course is designed as the foundational course to prepare students for pursuit of any career in construction. The course prepares the trainee for the basic knowledge to function safely on or around a construction site and in the industry in general.

Course 2 — Introduction to Construction - 46.54600
This course offers an opportunity for students to build on their knowledge and skills and introduces them to four construction craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students will be introduced to and develop skills to differentiate between blueprints related to each individual craft area.

Course 3 — Carpentry 1 - 46.55000
This course provides the student with a solid foundation in carpentry skills and knowledge. As the third step in gaining a Level One Industry Certification in Carpentry, the course provides an overview of the building materials used in the carpentry craft, as well as teaching techniques for reading and using blueprints, and specifications related to the carpentry craft. The course provides specific knowledge and skills in site layout and floor and wall framing systems, and includes basic industry terminology for a carpentry craftsperson.

Check out these schools that offer majors related to the Architecture and Construction Industry…
Atlanta Technical College
Central Georgia Technical College
Fort Valley State University
Gwinnett Technical College
North Georgia Technical College
Truett-McConnell College
University of North Georgia

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For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Carpentry Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Setter/Carpenter Assistant</td>
<td>$28,810</td>
</tr>
<tr>
<td>Construction Carpenters</td>
<td>$43,600</td>
</tr>
<tr>
<td>Brick Mason</td>
<td>$49,250</td>
</tr>
<tr>
<td>Plumbers</td>
<td>$51,450</td>
</tr>
<tr>
<td>Construction Managers</td>
<td>$89,300</td>
</tr>
</tbody>
</table>

Carpenters are one of the most versatile construction occupations, with workers usually doing a variety of tasks. For example, some carpenters insulate office buildings; others install drywall or kitchen cabinets in homes. Those who help construct large buildings or bridges often make the wooden concrete forms for cement footings or pillars. Some carpenters build braces and scaffolding for buildings. Carpenters construct and repair building frameworks and structures—such as stairways, doorframes, partitions, and rafters—made from wood and other materials.
ARCHITECTURE AND CONSTRUCTION

PATHWAY COURSE & DESCRIPTIONS:

**Course 1 — Industry Fundamentals and Occupational Safety - 46.54500**
This course is designed as the foundational course to prepare students for pursuit of any career in construction. The course prepares the trainee for the basic knowledge to function safely on or around a construction site and in the industry in general.

**Course 2 — Introduction to Construction - 46.54600**
This course offers an opportunity for students to build on their knowledge and skills and introduces them to four construction craft areas. The goal of this course is to introduce students to the history and traditions of the carpentry, masonry, plumbing, and electrical craft trades. Students will explore how the various crafts have influenced and been influenced by history. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students will be introduced to and develop skills to differentiate between blueprints related to each individual craft area.

**Course 3 — Electrical 1 - 46.56000**
This course provides the student with a solid foundation in electrical skills and knowledge. As the third step in gaining a Level One Industry Certification in Electrical, the course builds on the concepts of electrical safety introduced in Occupational Safety and provides knowledge and basic skills of the hardware and systems used by an electrician. The course incorporates general knowledge of the National Electrical Code and electrical systems, including series, parallel, and series parallel circuits. In additional, students will be provided an introduction to the skills and knowledge of conduit bending and installation.

Workers in the electrical pathway install and maintain electrical systems in homes, businesses, and factories. Electricians work indoors and out, in nearly every type of facility. Employment of electricians is projected to grow 23 percent from 2010 to 2020, faster than the average for all occupations. Homes and businesses require more wiring than ever before, and electricians will be needed to install the necessary components.

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Electrical Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecommunications Line Installers &amp; Repairers</td>
<td>$52,590</td>
</tr>
<tr>
<td>Electricians</td>
<td>$52,720</td>
</tr>
<tr>
<td>Electrical Power-Line Installers and Repairers</td>
<td>$68,010</td>
</tr>
<tr>
<td>Elevator Installers and Repairers</td>
<td>$78,890</td>
</tr>
</tbody>
</table>

Check out these schools that offer majors related to the Architecture and Construction Industry…

- Athens Technical College
- Bainbridge State College
- Fortis College-Smyrna
- Georgia Piedmont Technical College
- Gwinnett Technical College
- Lanier Technical College
- North Georgia Technical College
- Apprenticeship
- MetroPower
- Atlanta Electrical Contractors Association

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For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
How much can you make starting out in Georgia?

Audio-Video Jobs & Careers                        Annual Wages
• Film Producer                                $76,523
• Film Editor                                       $49,560
• Production Designer                                     $49,275
• Graphic Designer                                $49,899
• Script Writer (Technical)                                        $68,390
• Camera Operator                        $50,648
• Sound Engineer                         $45,635
• Announcer (TV & Radio)                                $44,574
• Technician (Audio & Video)                           $42,931

Check out these Georgia schools that offer majors related to the Broadcast & Film Industry…

    Chattahoochee Technical College
    Georgia State University
        Digital Arts and Entertainment Lab
    Grady College
    Savannah School of Art & Design
    University of Georgia

Do you know how many movies and television shows were filmed within a 50 mile radius of Barrow County? You would be surprised. Georgia has become one of the go to places for the television and film industry in the Southeast US. There are more and more businesses opening that require people with skills that can be learned in this class. This includes television, film and even radio. Students can find which area they like best, whether that is in front or behind the camera, editing, or behind a microphone. Students will learn everything from the idea in brainstorming to watching your finished DVD. The Audio/Video Technology and Film pathway is your passport to the exciting and growing film and broadcast industry in Georgia!

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Audio & Video Technology & Film I - 10.51810
The first class in the AVTF Pathway is the foundation course. This course provides the basic knowledge you need for learning how to operate the camera and the steps in creating a work of media. You will cover: Industry terminology • Safety • Basic Equipment • Camera Composition • Script Writing • Directing • Production Process • Professional Ethics • Copyright

Course 2—Audio & Video Technology & Film II - 10.51910
The second class in the AVTF Pathway is the building course. In this course you will learn how a studio operates and advanced techniques in creating a more professional looking work. You will cover: Lighting • Production Graphics • Advanced Recording & Editing • Studio Operation • Career Opportunities • Professional Ethics • Copyright

Course 3—Audio & Video Technology & Film III - 10.52010
The last class in the pathway is geared toward careers in which students may be able to pursue. Students will manage a student-led broadcast and work both individually and cooperatively on a variety of projects. You will cover: Career Opportunities • Professional Ethics • Copyright

SkillsUSA is the Career & Technical Student Organization for Audio/Video Technology & Film. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in such events as Digital Cinema, TV Video Production, Broadcast News, Business & Industry Video, Chapter Recruitment Commercial, and much more. For More Information:  Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
GRAPHIC COMMUNICATION

Graphic Communication is the process of communicating visually using typography and/or images to convey information. Graphic Design embraces a range of cognitive skills, create problem solving skills, aesthetics, and crafts, including typography, visual arts, illustration, photography, and page layout.

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Introduction to Graphics & Design - 48.56100
This is the foundational course for the Graphics Design pathway. It teaches students the processes involved in the technologies of printing, publishing, packaging, and electronic imaging. Students will also demonstrate using typography, visual arts, and page layout. You will explore: Employability Skills, Careers, Computer Software, Aesthetics, Imaging, Layout and Design, and Varying Print Processes.

Course 2—Graphics Design & Production - 48.56200
This course focuses on the procedures commonly used in the graphic communication and design industries. Students will gain experience in creative problem-solving and the practical implementation of those solutions across multiple areas of graphic communications. You will explore: Color, Elements and Principles, Output processes, Field experience, Typography, File Management, Equipment Operation, Finishing Methods, and Customer Service and Sales Principles.

Course 3—Advanced Graphic Output Processes - 48.57000
The final course in the pathway, students will gain advanced levels of experience to complete the output processes of various projects. Students will be able to manage the entire completion process from customer service to printing to finishing. Knowledge and skills in design and printing will be enhanced through experiences that simulate the graphic communications industry and school-based and work-based learning opportunities. You will explore: Project Production, Developing a Portfolio, Layout and Design, Employability Skills, Production Costs, Output Devices.

Check out these Georgia schools that offer majors related to Graphic Communication...
- Art Institute of Atlanta
- Emory University
- Georgia Institute of Technology
- Lanier Technical College,
- Savannah College of Art and Design (SCAD)
- University of Georgia

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binding and Finishing</td>
<td>$29,500</td>
</tr>
<tr>
<td>Commercial and Industrial Designer</td>
<td>$55,660</td>
</tr>
<tr>
<td>Graphic Designer</td>
<td>$47,130</td>
</tr>
<tr>
<td>Magazine Editor</td>
<td>$55,718</td>
</tr>
<tr>
<td>Photographer</td>
<td>$28,490</td>
</tr>
<tr>
<td>Pre-Press Operator</td>
<td>$37,200</td>
</tr>
<tr>
<td>Press Operator (Digital and Ink)</td>
<td>$35,100</td>
</tr>
</tbody>
</table>

SkillsUSA is the Career & Technical Student Organization for the Graphics Industry. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in such events as Graphic Commutation (Press Work), Graphic Design (Pre-Press) Dye Sublimation, Screen Printing, and many more print and leadership competitions. For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
Graphic designers—or graphic artists—plan, analyze, and create visual solutions to communications problems. They find the most effective way to get messages across in print, electronic, and film media using a variety of methods such as color, type, illustration, photography, animation, and various print and layout techniques. An increasing number of graphic designers also develop material for Internet Web pages, interactive media, and multimedia projects.

**PATHWAY COURSE & DESCRIPTIONS:**

**Course 1—Introduction to Graphics & Design - 48.56100**
This is the foundational course for the Graphics Design pathway. It teaches students the processes involved in the technologies of printing, publishing, packaging, and electronic imaging. Students will also demonstrate using typography, visual arts, and page layout. You will explore: Employability Skills, Careers, Computer Software, Aesthetics, Imaging, Layout and Design, and Varying Print Processes.

**Course 2—Graphics Design & Production - 48.56200**
This course focuses on the procedures commonly used in the graphic communication and design industries. Students will gain experience in creative problem-solving and the practical implementation of those solutions across multiple areas of graphic communications. You will explore: Color, Elements and Principles, Output processes, Field experience, Typography, File Management, Equipment Operation, Finishing Methods, and Customer Service and Sales Principles.

**Course 3—Advanced Graphic Design - 48.52800**
Students will continue to explore in an increasingly independent manner, the principles of design and layout procedures relating to the field of graphic design. Content will cover electronic systems and software programs used in graphic design, page composition, image conversion, and digital printing. Knowledge and skills in digital design and imaging will be enhanced through experiences that simulate the graphic design industry and school-based and work-based learning opportunities.

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Graphic Design Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphic Designers</td>
<td>$47,640</td>
</tr>
<tr>
<td>Web Developer/Webmaster</td>
<td>$66,130</td>
</tr>
<tr>
<td>E-commerce Marketing Manager</td>
<td>$86,510</td>
</tr>
</tbody>
</table>

Check out these Georgia schools that offer majors related to Graphic Design…

Art Institute of Atlanta  
Atlanta Technical College  
Chattahoochee Technical College  
Emmanuel College  
Fort Valley State University  
Gwinnett Technical College  
Lanier Technical College  
Savannah College of Art and Design

**SkillsUSA** is the Career & Technical Student Organization for Audio/Video Technology & Film. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in such events as Digital Cinema, TV Video Production, Broadcast News, Business & Industry Video, Chapter Recruitment Commercial, and much more. For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
The administrative support services industry is one of the largest job providers in the U.S. economy. Typical responsibilities of workers in this field include performing and coordinating office activities in an efficient manner. For example - planning and scheduling meetings, managing projects, and conducting research. Support services staff also store, retrieve, and integrate information in a variety of ways to distribute throughout the organization and among its clients.

PATHWAY COURSE & DESCRIPTIONS:

**Course 1—Introduction to Business and Technology - 07.44130**
This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. You will cover: Hardware • Software • Communications • Risk Management • Leadership Marketing • Entrepreneurship • Management • Accounting
**Students have the opportunity to earn MOS Word Certification**

**Course 2—Business & Technology - 07.44100**
This project-based course incorporates advanced functions of Microsoft Office along with advanced business skills. Students will learn to use problem-solving skills, effectively and efficiently utilizing technology, and meet workplace demands. You will cover: Professionalism • Teamwork and Problem Solving Skills • Software Integration
**Students have the opportunity to earn MOS Excel and Access Certification**

**Course 3—Business Communications - 07.45100**
This course will provide students with an understanding of communication skills and the use of technology to enhance presentations. The ability to communicate professionally is critical for both personal and career success. You will cover: Multimedia Production • Presentation Software • Emerging Technologies • Interpersonal Skills • Social Media
**Students have the opportunity to earn MOS PowerPoint Certification**

Future Business Leaders of America (FBLA) is an organization for business students in middle and high school. FBLA gives students opportunities to develop leadership and career skills while preparing for careers in business and business related fields. Through its various projects and competitive events, FBLA provides leadership development training for its members to become successful leaders in schools, communities, and future careers. For More Information: Georgia FBLA - www.gafbla.org; National FBLA-PBL - www.fbla-pbl.org
The social and economic changes in society will continue to create a need for child care services. Employment of preschool teachers is expected to grow faster than the average for all occupations. Growth is expected due to a continued focus on the importance of early childhood education. These changes occur in families, employers’ attitudes, and educator’s attitudes.

PATHWAY COURSE & DESCRIPTIONS:

Course 1—Early Childhood Education I - 20.52810
This course prepares students to be future preschool and elementary school teachers. We build a holistic understanding of child development and the important role adults have when fostering that growth and development. Common Activities: Baby Book Project, Infant Toy Design, Preschool Game Analysis, Design a Preschool Learning Environment.

Course 2—Early Childhood Education II - 20.42400
This course further prepares students to work with children. It focuses on the history of education, licensing and accreditation requirements, observation and assessment methods, and common concerns when working with children with exceptional needs. We also explore health, safety, and nutrition based practices in an ECE setting. Common Activities: “Knowledge is Power” project, Observation practices of children, career analysis, CPR and First Aid.

Course 3—Early Childhood Education III - 20.42500
This course looks at the child’s brain development while exploring various influential factors (cultures, technology use, play and language development, discipline, and breast-feeding). Common Activities: Building a Family Culture, Age Appropriate Expectations, Classroom Discipline Guidelines, Reviewing Technology.

Alternative Course 3—Early Childhood Education Practicum - 20.42600
This course looks at the child’s brain development while exploring various influential factors (cultures, technology use, play and language development, discipline, and breast-feeding). Common Activities: Building a Family Culture, Age Appropriate Expectations, Classroom Discipline Guidelines, Reviewing Technology.

Check out these Georgia schools that offer majors related to Education…

Lanier Technical College
Georgia Gwinnett College
Gwinnett Technical College
University of Georgia
University of North Georgia
Valdosta State University

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Childhood Education Teacher</td>
<td>$41,800</td>
</tr>
<tr>
<td>Librarian</td>
<td>$54,560</td>
</tr>
<tr>
<td>Teacher’s Assistant</td>
<td>$25,000</td>
</tr>
<tr>
<td>Nanny or Aupair</td>
<td>$23,000</td>
</tr>
</tbody>
</table>

What is FCCLA? Family, Career, & Community Leaders of America (FCCLA) is the student organization which accompanies the Family and Consumer Science courses. FCCLA is a community service-oriented organization that builds leadership qualities, promotes teamwork, and encourages family values. FCCLA also provides students with the opportunity to compete at the regional, state, and national level for scholarships and cash prizes. For More Information: Georgia FCCLA - www.gafccla.com; National FCCLA - www.fcclainc.org
TEACHING AS A PROFESSION

Educational services are the second largest industry, accounting for about 13 million jobs. The educational services industry includes a variety of institutions that offer academic education, vocational or career and technical instruction and other education and training to millions of students each year. Institutions include elementary, middle and secondary schools, universities, colleges, professional schools, community or junior colleges and career and technical institutes.

PATHWAY COURSE & DESCRIPTIONS:

Course 1 — Examining the Teaching Profession - 13.01100
The Examining the Teaching Profession prepares students for future positions in the field of education. Teaching as a Profession students study, apply, and practice the use of current technologies, effective teaching and learning strategies, the creation of an effective learning environment, the creation of instructional opportunities for diverse learners and students with special needs, and plan instruction based on knowledge of subject matter, students, community, and curriculum performance standards.

Course 2 — Contemporary Issues in Education - 13.01200
This course engages the candidate in observations, interactions, and analyses of critical and contemporary educational issues. The candidate will investigate issues influencing the social and political contexts of educational settings in Georgia and the United States and actively examines the teaching profession from multiple vantage points both within and outside of the school. Against this backdrop, the candidate will reflect on and interpret the meaning of education and schooling in a diverse culture and examine the moral and ethical responsibilities of teaching in a democracy.

Course 3 — Teaching as a Profession Practicum - 13.01300
The practicum offers a candidate in the Teaching as a Profession career pathway a field experience under the direct supervision of a certified teacher (mentor teacher). The practicum stresses observing, analyzing and classifying activities of the mentor teacher and comparing personal traits with those of successful teachers. The candidate intern will develop a portfolio of their skills, plan and teach a lesson or lessons, understand and practice confidentiality as it pertains to the teaching profession, meet the needs of students with special needs, maintain the safety of the students, practice professionalism, and demonstrate ethical behavior.

Check out these Georgia schools that offer majors related to Education…

Berry College
Georgia College and State University
Gwinnett Technical College
Lanier Technical College
Mercer University
North Georgia Technical College
Piedmont College
University of North Georgia

How much can you make starting out in Georgia?

Teaching Jobs and Careers Annual Wages
• Teacher Assistant $25,410
• School Teacher $55,800
• Special Education Teacher $57,040
• Education Administrator $92,510

What is FCCLA? Family, Career, & Community Leaders of America (FCCLA) is the student organization which accompanies the Family and Consumer Science courses. FCCLA is a community service-oriented organization that builds leadership qualities, promotes teamwork, and encourages family values. FCCLA also provides students with the opportunity to compete at the regional, state, and national level for scholarships and cash prizes. For More Information: Georgia FCCLA - www.gafclla.com; National FCCLA - www.fcclainc.org
Future Business Leaders of America (FBLA) is an organization for business students in middle and high school. FBLA gives students opportunities to develop leadership and career skills while preparing for careers in business and business related fields. Through its various projects and competitive events, FBLA provides leadership development training for its members to become successful leaders in schools, communities, and future careers. For More Information: Georgia FBLA - www.gafbla.org; National FBLA-PBL - www.fbla-pbl.org

## PATHWAY COURSE & DESCRIPTIONS:

**Course 1 — Introduction to Business and Technology - 07.44130**
This course is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society, and the business world. You will cover: Hardware • Software • Communications • Risk Management • Leadership Marketing• Entrepreneurship • Management • Accounting
**Students have the opportunity to earn MOS Word Certification**

**Course 2 — Financial Literacy - 07.42600**
How money smart are you? This course was specifically designed for high school students to understand the importance of the financial world, including planning and managing money wisely. Areas of study taught through application in personal finance include sources of income, budgeting, banking, consumer credit, credit laws and rights, personal bankruptcy, insurance, spending, taxes, investment strategies, savings accounts, mutual funds and the stock market, buying a vehicle, and living independently.

**Course 3 — Banking, Investing and Insurance - 07.43100**
Explore the financial world as students dive into the main areas of financial services, including banking, investing, and insurance. Basics of banking and credit include a brief history of money and banking, negotiable instruments, creation of credit, and the function of banks. Students will be introduced to a variety of investment options and learn to determine the appropriate options for an investment goal. By analyzing financial reports and employing other tools to predict growth rates and return on investment, students will develop strategies to produce financial growth strategies for a business. Ethical issues and case studies involved in the financial services industry will be used to determine how industry regulations are developed.

## Check out these Georgia schools that offer majors related to Finance…
- Athens Technical College
- Georgia Southern University
- Gwinnett Technical College
- Lanier Technical College
- North Georgia Technical College
- Strayer University
- University of Georgia
- University of North Georgia
- Valdosta State University

## HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Financial Services Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookkeeping, Accounting and Auditing Clerks</td>
<td>$38,390</td>
</tr>
<tr>
<td>Farm and Ranch Managers</td>
<td>$66,360</td>
</tr>
<tr>
<td>Personal Financial Advisors</td>
<td>$90,530</td>
</tr>
<tr>
<td>Financial Manager/Banking Center Manager</td>
<td>$121,750</td>
</tr>
</tbody>
</table>
PATHWAY COURSE & DESCRIPTIONS:

LET 1: Introduction to Leadership, Character Development, Basic Life Skills, and Citizenship - 28.03100
The first class in the pathway is the basic course. It provides Cadets with entry level knowledge regarding US Army customs and traditions. You will cover: Moving up in JROTC, Roles of Leaders and Followers, Rights and Responsibilities of American Citizens, Principles of Leadership, Personal Appearance and Uniform Standards.

The second class in the JROTC pathway is the intermediate course. In this course you will learn how to be a better citizen and study how the US Army fits into our government and nation. You will cover: Cultural and Individual Diversity, Motivation, Making right choices, Styles of Leadership, the US Constitution, First aid, and the effects of Drug and Alcohol use.

The last class in the pathway is geared toward advanced leadership. Cadets will lead classmates in planning, organizing, and executing various projects and programs. You will cover: The Department of Defense, Career Exploration, Goals Setting, Decision Making and Problem Solving.

Check out some of these colleges and universities that offer opportunities for advancement in the military…

University of Georgia
Georgia Institute of Technology
Military College of Georgia
University of North Georgia
Georgia Southern University

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officer (Entry)</td>
<td>$48,000</td>
</tr>
<tr>
<td>Soldier (Enlisted w/JROTC)</td>
<td>$22,035</td>
</tr>
<tr>
<td>Soldier (Enlisted w/o JROTC)</td>
<td>$19,659</td>
</tr>
</tbody>
</table>

Enrollment in JROTC allows you to participate in the following extracurricular activities: Raider Team – This team competes in events ranging from 3 mile team runs, cross country rescue challenges, obstacle courses and a one rope bridge course. This fall sport is comprised of our most dedicated and physically fit individuals. Color Guard – This year-round element is the most widely utilized battalion team. Aside from competitions and sporting events, they are requested to present our Nations Colors at almost all city and county functions. Academic Bowl Teams – These teams compete in online testing in Math, Science, English, Social Studies and JROTC curriculums against 1300 other teams around the nation. Drill Team – This team competes at region and state competitions for armed and unarmed drill meets. This winter sport requires team members that are disciplined, dedicated, and must pay close attention to detail.
Experts predict Georgia will add more healthcare jobs than any other state (except Utah) between now and 2020. Healthcare will lead all other industries and account for one-fourth of all new jobs created by 2020, according to the Georgia Department of Labor. It is projected to grow by 120,000 jobs and employ nearly 540,000 workers overall. Nationally, close to 6 million new jobs will be created in the same period. If you are interested in medicine, disease research, or helping people recover from illness or injury, a career in Healthcare Science may be ideal for you.

PATHWAY COURSES & DESCRIPTIONS:

Course 1—Introduction to Healthcare Science - 25.52100
The first class is the foundation course for the Allied Health and Medicine Pathway. This course enables students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. You will learn: Infection Control, Safety, Medical Terminology, CPR, and Growth and Development.

Course 2—Essentials of Healthcare - 25.44000
The second class in the Allied Health and Medicine Pathway is primarily anatomy and physiology. Students learn how the body works and diseases and disorders associated with body systems. You will learn: Vital Signs, First Aid, Sterile Technique, and Application of Medical Terminology. Students who earn 1 unit credit for this course shall also receive 1 unit of science credit for Human Anatomy and Physiology. Students will receive the same grade for both courses.

Course 3—Allied Health and Medicine - 25.43700
The course is designed to offer students the opportunity to become effective and efficient multi-skilled healthcare providers as they develop a working knowledge of the different areas of healthcare. In addition, you will learn: Professionalism, Communication Skills, and Teamwork and Problem Solving Skills.

Check out these Georgia schools that offer majors related to the Health Science Industry…

Armstrong Atlantic State University
Brenau University
Georgia Regents University
Georgia Southern University
Georgia State University
Kennesaw State University
Lanier Technical College
Mercer University
University of Georgia
University of North Georgia
Valdosta State University

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Allied Health Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Lab Scientist</td>
<td>$54,139</td>
</tr>
<tr>
<td>Dental Hygienist</td>
<td>$65,200</td>
</tr>
<tr>
<td>Dietician</td>
<td>$48,800</td>
</tr>
<tr>
<td>Doctor of Medicine</td>
<td>$192,184</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>$116,170</td>
</tr>
<tr>
<td>Physical Therapist</td>
<td>$85,740</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>$95,000</td>
</tr>
<tr>
<td>Radiologic Technologist</td>
<td>$53,203</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td>$52,089</td>
</tr>
<tr>
<td>Respiratory Therapist</td>
<td>$54,480</td>
</tr>
</tbody>
</table>

HOSA-Future Health Professional is the Career & Technical Student Organization for students interested in healthcare. The mission of HOSA is to enhance the delivery of compassionate, quality healthcare by providing opportunities for knowledge, skill and leadership development of all health science technology education students, therefore, helping students to meet the needs of the healthcare community.

For More Information: Georgia HOSA www.georgiahosa.org; National HOSA www.hosa.org
Experts predict Georgia will add more healthcare jobs than any other state (except Utah) between now and 2020. Healthcare will lead all other industries and account for one-fourth of all new jobs created by 2020, according to the Georgia Department of Labor. It is projected to grow by 120,000 jobs and employ nearly 540,000 workers overall. Nationally, close to 6 million new jobs will be created in the same period. If you are interested in medicine, disease research, or helping people recover from illness or injury, a career in Healthcare Science may be ideal for you.

PATHWAY COURSES & DESCRIPTIONS:

**Course 1—Introduction to Healthcare Science - 25.52100**
The first class is the foundation course for the Biotechnology Research and Development Pathway. This course enables students to receive initial exposure to the many Healthcare Science careers as well as employability, communication, and technology skills necessary in the healthcare industry. You will learn: Infection Control, Safety, Medical Terminology, CPR, and Growth and Development.

**Course 2—Essentials of Biotechnology - 25.57000**
This lab based course exposes students to the careers, ethics, and regulations in the growing, multi-faceted biotech industry through development and application of the laboratory and research skills required to be employable. You will learn: Safety Regulations, Industry Uses, Laboratory Techniques, and Policy Issues. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

**Course 3—Applications of Biotechnology - 25.56900**
This heavily lab- based course teaches more technical and advanced yet common laboratory skills that are seen in medical, agricultural, forensic, and pharmaceutical labs while also dealing with the applications to modern life in a safe, effective, ethical manner. You will learn: Data Analysis, Advanced Lab Techniques, and Current Issues and Trends. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Check out these Georgia schools that offer majors related to the Health Science Industry...

- Fort Valley State University
- Georgia State University
- Gwinnett Technical College
- Kennesaw State University
- Lanier Technical College
- University of Georgia

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Career</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biotechnology Careers</td>
<td>$39,750</td>
</tr>
<tr>
<td>Biological Technicians</td>
<td>$47,820</td>
</tr>
<tr>
<td>Clinical Research Associate</td>
<td>$42,920</td>
</tr>
<tr>
<td>Chemical Technician</td>
<td>$66,260</td>
</tr>
<tr>
<td>Microbiologist</td>
<td>$63,570</td>
</tr>
<tr>
<td>Environmental Specialist</td>
<td>$63,570</td>
</tr>
</tbody>
</table>

HOSA-Future Health Professional is the Career & Technical Student Organization for students interested in healthcare. The mission of HOSA is to enhance the delivery of compassionate, quality healthcare by providing opportunities for knowledge, skill and leadership development of all health science technology education students, therefore, helping students to meet the needs of the healthcare community.

For More Information: Georgia HOSA www.georgiahosa.org; National HOSA www.hosa.org
PATHWAY COURSES & DESCRIPTIONS:

Course 1—Introduction to Culinary Arts - 20.53100
This course combines professional culinary training, career exploration in the food service industry and food preparation skills. Chefs from the local food industry assist with class-room instruction. Students are trained by an ACF Chef. You will cover: Safety & Sanitation • Organization Skills • Knife Techniques • Commercial Equipment • Soups • Glazes • Egg Cookery • Quick Breads • Yeast Breads • Nutrition

Course 2—Culinary Arts I - 20.53210
Students will be introduced to some of the fundamentals of French cooking and the advanced techniques needed to master the skill of Culinary Arts. Juniors and Seniors are eligible to participate in regional, state, and national competitions You will cover: Fabrication • Meat • Dairy Products • ServSafe® Certification • Soups • Stocks • Breakfast Items

Course 3—Culinary Arts II - 20.53310
This is a rigorous, in-depth course designed for students who wish to continue their education at the post-secondary level or enter the foodservice industry. Students will operate a full-service restaurant while applying the skills gained from Intro. to Culinary Arts and Culinary Arts I. You will cover: Restaurant Operations • Cater Events • Managerial, Production, and Service Skills • Careers • Tarts • Pastas • Seafood • Poultry • International Foods • Regional Foods

Check out these Georgia schools that offer majors related to the Culinary Arts and Foodservice Industry…
Art Institute of Atlanta
Athens Technical College
Lanier Technical College
Le Cordon Bleu College of Culinary Arts in Tucker
North Georgia Technical College
Savannah Technical College

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Culinary Arts Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Scientist/Technologist</td>
<td>$55,689</td>
</tr>
<tr>
<td>Dietician /Nutritionist</td>
<td>$53,250</td>
</tr>
<tr>
<td>Food Writer</td>
<td>$49,000</td>
</tr>
<tr>
<td>Food Services Manager</td>
<td>$48,130</td>
</tr>
<tr>
<td>Health Educator</td>
<td>$45,830</td>
</tr>
<tr>
<td>Catering Manager</td>
<td>$43,128</td>
</tr>
<tr>
<td>Food Stylist</td>
<td>$40,890</td>
</tr>
<tr>
<td>Chefs and Head Cooks</td>
<td>$40,630</td>
</tr>
</tbody>
</table>

What is FCCLA? Family, Career, & Community Leaders of America (FCCLA) is the student organization which accompanies the Family and Consumer Science courses. FCCLA is a community service-oriented organization that builds leadership qualities, promotes teamwork, and encourages family values. FCCLA also provides students with the opportunity to compete at the regional, state, and national level for scholarships and cash prizes. For More Information: Georgia FCCLA - www.gafccla.com; National FCCLA - www.fcclainc.org
Tourism is big business in Georgia, really big!
The Tourism industry in Georgia is the 5th largest employer in the state with a total economic impact of $51.2 billion, supporting more than 400,000 jobs, or 10.2% of all payroll employment in Georgia.

PATHWAY COURSES & DESCRIPTIONS:

Course 1—Marketing Principles - 08.47400
Marketing Principles is the foundation course for all marketing pathways. This course is full of classroom activities and hands-on projects that help you to understand how marketing impacts our everyday lives. You will learn to create and improve products, learn sales techniques, promote yourself, and build your brand.

Course 2—Hospitality, Recreation, & Tourism Essentials - 08.45300
The second course in this pathway will educate about trendy vacation destinations and how to choose the best lodging for business and leisure travelers. This course will examine the income opportunities associated with conventions, tradeshows, and entertainment events. Students will explore the lucrative career opportunities in the lodging, food, recreation, and transportation industries.

Course 3—Hospitality, Recreation, & Tourism Management - 08.45400
For this capstone course, an emphasis will be placed on the legal environment, human resources, diversity, and ethics from a management perspective. Strategies for growing and maintaining a profitable organization are the cornerstones of this course offering.

Check out these Georgia schools that offer majors related to the Hospitality Industry...

Georgia State University
Gwinnett Technical College
Kennesaw State University
University of Georgia

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>HRT Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing Manager</td>
<td>$118,000</td>
</tr>
<tr>
<td>Promotion Manager</td>
<td>$93,000</td>
</tr>
<tr>
<td>Lodging Manager</td>
<td>$55,000</td>
</tr>
<tr>
<td>Food Services Manager</td>
<td>$60,000</td>
</tr>
<tr>
<td>Catering Manager</td>
<td>$56,000</td>
</tr>
<tr>
<td>Distribution Manager</td>
<td>$80,000</td>
</tr>
<tr>
<td>Meeting Planner</td>
<td>$43,000</td>
</tr>
<tr>
<td>Head Chef</td>
<td>$42,000</td>
</tr>
<tr>
<td>Travel Agent</td>
<td>$35,000</td>
</tr>
</tbody>
</table>

DECA is the career and technical student organization for all marketing pathways. DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality, and management in high schools and colleges around the globe.

For More Information: Georgia DECA - www.georgiadeca.org
National DECA - www.deca.org
In the Food and Nutrition pathway you will have opportunities to learn knowledge and skills on food choices for optimal health for a lifetime. Science is integrated in this pathway creating the potential for the final two courses to earn a fourth science credit. This pathway culminates with an opportunity for students to take the National Restaurant Association’s end of pathway assessment and to potentially earn a ServSafe certificate.

PATHWAY COURSES & DESCRIPTIONS:

**Course 1—Food, Nutrition, and Wellness - 20.41610**
The first class in the Food & Nutrition Pathway is the foundation course. This course will provide you with an understanding of nutritional needs and food choices for optimal health of individuals across the lifespan. You will develop a knowledge base and the skills necessary to select among alternatives in the marketplace, with an emphasis on nutrient content, the development of chronic diseases, food safety and culinary arts.

**Course 2—Food for Life - 20.41400**
The second class in the Food & Nutrition Pathway is an advanced course in food and nutrition that addresses the variation in nutritional needs at specific stages of the human life cycle: lactation, infancy, childhood, adolescence, and adulthood including old age. The most common nutritional concerns, their relationship to food choices and health status and strategies to enhance well-being at each stage of the lifecycle are emphasized. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

**Course 3—Food Science - 20.41810**
The last class in the pathway and can count as a science credit. Food science integrates many branches of science and relies on the application of the rapid advances in technology to expand and improve the food supply. Students will evaluate the effects of processing, preparation, and storage on the quality, safety, wholesomeness, and nutritive value of foods. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Check out these Georgia schools that offer majors related to the Food and Nutrition Industry...

- Albany Technical College
- Fort Valley State University
- Georgia Southern University
- University of Georgia
- Valdosta State University

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Food &amp; Nutrition Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered Dietician</td>
<td>$54,780</td>
</tr>
<tr>
<td>Health Educator</td>
<td>$53,940</td>
</tr>
<tr>
<td>Public Health Administrator</td>
<td>$70,000</td>
</tr>
<tr>
<td>Nutrition Education</td>
<td>$55,240</td>
</tr>
<tr>
<td>Food Administrator</td>
<td>$63,000</td>
</tr>
<tr>
<td>Food and Nutrition Scientist</td>
<td>$75,110</td>
</tr>
<tr>
<td>Epidemiologist</td>
<td>$69,660</td>
</tr>
</tbody>
</table>

What is FCCLA? Family, Career, & Community Leaders of America (FCCLA) is the student organization which accompanies the Family and Consumer Science courses. FCCLA is a community service-oriented organization that builds leadership qualities, promotes teamwork, and encourages family values. FCCLA also provides students with the opportunity to compete at the regional, state, and national level for scholarships and cash prizes. For More Information: Georgia FCCLA - www.gafccla.com; National FCCLA - www.fcclainc.org
INFORMATION TECHNOLOGY

PATHWAY COURSES & DESCRIPTIONS:

Course 1—Introduction to Digital Technology - 11.41500
The foundation course, Introduction to Digital Technology, is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society and the business world.
You will explore: Hardware • Software • Internet Basics • Web Design • Basic Troubleshooting • Networking Trends

Course 2—Computer Science Principles - 11.45100
The major goal of this course is for students to develop the computer science skills of algorithm development, problem solving, and programming. While the emphasis of the course will be on programming, students will also be introduced to other important topics, such as careers, the limits of computing and the difference between interpreters and compilers.
This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Course 3—AP Computer Science - 11.45200
Students will have the opportunity to earn college credit through this Advanced Placement course. This course will teach students to use the core aspects of computer science to create solutions that are understandable and adaptable. Students will study the development and analysis of algorithms and data structures using various methods.

Computer Science allows students to develop problem solving and programming skills. This pathway concludes with an Advanced Placement (AP) course that will give students the opportunity to earn college credit. Through this pathway, students will learn to design and implement computer programs that solve problems that are relevant in today’s world.

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

Computer Science Jobs & Careers | Annual Wages
--- | ---
Animators | $45,000
Sound Designers | $71,000
Game Designers | $83,000
Game Programmers | $85,000
Game Producers | $59,000
Game Executive Producers | $75,000
Game Testers | $38,000
Computer Programmers | $71,380
Computer Systems Analyst | $77,740

Check out these Georgia schools that offer majors related to the Information Technology Industry...
Georgia Institute of Technology
Georgia Southern University
Savannah College of Art and Design
Southern Polytechnic State

Future Business Leaders of America (FBLA) is an organization for business students in middle and high school. FBLA gives students opportunities to develop leadership and career skills while preparing for careers in business and business related fields. Through its various projects and competitive events, FBLA provides leadership development training for its members to become successful leaders in schools, communities and future careers.
PATHWAY COURSES & DESCRIPTIONS:

Course 1—Introduction to Digital Technology - 11.41500
The foundation course, Introduction to Digital Technology, is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society and the business world. You will explore: Hardware • Software • Internet Basics • Web Design • Basic Troubleshooting • Networking Trends

Course 2—Computer Science Principles - 11.47100
The major goal of this course is for students to develop the computer science skills of algorithm development, problem solving, and programming. While the emphasis of the course will be on programming, students will also be introduced to other important topics, such as careers, the limits of computing and the difference between interpreters and compilers. This course counts toward satisfying the fourth science requirement and a CTAE pathway completion requirement.

Course 3—Programming, Apps, & Game Design - 11.47200
Students will learn key concepts of software engineering, graphical user interface, and user interface design. Students will gain a deeper understanding of basic data structures and use them to solve more complex problems in a collaborative manner.

Game design starts with an idea that is often the modification of an existing concept. The designer usually produces an initial game proposal document containing the concept, gameplay, feature list, setting and story, target audience, requirements and schedule, staff and budget estimate. These and many other programming concepts will be introduced throughout this pathway. Just think, the next xBox, PS, or App may be originally developed in one of our labs.

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Programming Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animators</td>
<td>$45,000</td>
</tr>
<tr>
<td>Sound Designers</td>
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<tr>
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</tr>
<tr>
<td>Computer Programmers</td>
<td>$71,380</td>
</tr>
<tr>
<td>Computer Systems Analyst</td>
<td>$77,740</td>
</tr>
</tbody>
</table>

Check out these Georgia schools that offer majors related to the Game Design Industry...

Georgia Institute of Technology
Georgia Southern University
Savannah College of Art and Design
Southern Polytechnic State

Future Business Leaders of America (FBLA) is an organization for business students in middle and high school. FBLA gives students opportunities to develop leadership and career skills while preparing for careers in business and business related fields. Through its various projects and competitive events, FBLA provides leadership development training for its members to become successful leaders in schools, communities and future careers.

WEB AND DIGITAL DESIGN

We are living in a digital age and this pathway will provide you with hands-on instruction in creating, designing and producing interactive multimedia products. You will learn how to design Websites, enhance images, and create animation to be used interactively on the internet. This pathway culminates with an opportunity for students to earn an industry-recognized credential.

PATHWAY COURSES & DESCRIPTIONS:

**Course 1 — Introduction to Digital Technology - 11.41500**
The foundation course, Introduction to Digital Technology, is designed for high school students to understand, communicate, and adapt to a digital world as it impacts their personal life, society and the business world. You will explore: Hardware • Software • Internet Basics • Web Design • Basic Troubleshooting • Networking Trends • Digital Citizenship • Careers in Field • Programming

**Course 2 — Digital Design - 11.45100**
The second class is formatted to teach students multimedia concepts and applications utilizing text, animation, sound, video, Web, and various multimedia applications. You will explore: Digital Communication • Basic Programming • Graphic Design • Layout • Photography • Audio & Video Production • Website Development • Animation • Multimedia • Typography • Editing Software

**Course 3 — Web Design - 11.45200**
In the final class in the pathway students will uncover the elements and principles of design while creating professional quality web sites and digital products. You will explore: The Web Development Process • Advanced Layout and Design Features • Scripting Languages • HTML • Servers • All the Latest Technology Developments in the web and digital world.

Check out these Georgia schools that offer majors related to the Web & Digital Communications...

<table>
<thead>
<tr>
<th>School Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Institute of Atlanta</td>
</tr>
<tr>
<td>Georgia Institute of Technology</td>
</tr>
<tr>
<td>Gwinnett Technical College</td>
</tr>
<tr>
<td>Lanier Technical College</td>
</tr>
<tr>
<td>Savannah College of Art and Design (SCAD)</td>
</tr>
<tr>
<td>Southern Polytechnic State</td>
</tr>
<tr>
<td>University of Georgia</td>
</tr>
</tbody>
</table>

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web &amp; Digital Design</td>
<td></td>
</tr>
<tr>
<td>Jobs and Careers</td>
<td></td>
</tr>
<tr>
<td>• Computer and Info Research Scientist</td>
<td>$100,650</td>
</tr>
<tr>
<td>• Computer Programmer</td>
<td>$71,380</td>
</tr>
<tr>
<td>• Computer Support Specialist</td>
<td>$46,260</td>
</tr>
<tr>
<td>• Computer Systems Analyst</td>
<td>$77,740</td>
</tr>
<tr>
<td>• Data Administrator</td>
<td>$73,490</td>
</tr>
<tr>
<td>• Information Security Analyst</td>
<td>$75,660</td>
</tr>
<tr>
<td>• Web Developer</td>
<td>$75,660</td>
</tr>
<tr>
<td>• Computer &amp; Network Administrator</td>
<td>$69,160</td>
</tr>
<tr>
<td>• Software Developer</td>
<td>$90,530</td>
</tr>
</tbody>
</table>

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The career opportunities available in Corrections are numerous! Be a part of keeping our community safe from those who choose to break the law! There are jobs available as a Correctional Officer, Probation Officer or Parole Officer. Want to try to redirect youthful offenders? Try a career in Juvenile Corrections or Probations. You can make a difference! Are you more interested in how the criminal mind works? Studying those who are already in custody is also a part of this career field.

PATHWAY COURSES & DESCRIPTIONS:

**Course 1—Introduction to Law, Public Safety, Corrections and Security - 43.45000**
This course will examine the basic concepts of law related to citizens' rights and responsibilities along with exploring career opportunities in the Law and Public Safety field. Students will receive information and training in the following areas: Dangers in Public Safety (Gangs, Drugs/DUI, Disease) • Handcuffing and Fingerprinting • CERT (Disaster Preparedness, CPR, First Aid, Fire prevention) • Terrorism (International and Domestic) • Criminal and Civil Law

**Course 2—Criminal Justice Essentials - 43.45100**
This course will examine the history and evolution of the police force as well as the court system. Students will learn skills related to: Traffic and Patrol Operations (Accident Reconstruction, Traffic stops, Types of Patrol) • Civil and Criminal Laws Mock Trial (Pre-trial procedures, steps in a trial, creation of a trial) • Police procedure • Sentencing options (including research on the death penalty)

**Course 3—Applications of Corrections - 43.45700**
This course provides an analysis of all phases of the American Correctional System and practices, including the history, procedures and objectives. Topics include the history and evolution of correctional facilities; legal and administrative problems; institutional facilities and procedures; probation, parole and pre-release programs; alternative sentencing; rehabilitation; effects and costs of recidivism; community involvement; officer safety; and staffing.

Check out these Georgia schools that offer majors related to Law Enforcement...
- Georgia Gwinnett College
- Georgia State University
- Lanier Technical College
- University of Georgia
- University of North Georgia

**HOW MUCH CAN YOU MAKE STARTING OUT NATIONALLY?**

<table>
<thead>
<tr>
<th>Corrections Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Correctional Officer</td>
<td>$24,322</td>
</tr>
<tr>
<td>Juvenile Correctional Officer</td>
<td>$24,849</td>
</tr>
<tr>
<td>Adult Probation Officer</td>
<td>$31,474</td>
</tr>
<tr>
<td>Juvenile Probation Officer</td>
<td>$29,399</td>
</tr>
<tr>
<td>Parole Officer</td>
<td>$34,480</td>
</tr>
<tr>
<td>Forensic Psychologist</td>
<td>$61,496</td>
</tr>
</tbody>
</table>

SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Criminal Justice, Crime Scene Investigations, First Aid/CPR, Job Interview, Criminal Justice Quiz Bowl, Job Skill Demonstration, and much more. For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
LAW ENFORCEMENT SERVICES

Do you know how many career opportunities are available in Law and Public Safety? You could be a vital member of the team keeping our community safe. There are opportunities right here in our community to be a part of the Sheriff’s Department, Barrow County Emergency Services or in the courts as a prosecutor or defense attorney! Are you a curious person? Check out the jobs available in Crime Scene Investigations! You may also have the ability to make a career in this field at the State or Federal Level with the Georgia State Patrol, GBI, FBI, and numerous other agencies. Know your rights, know your responsibilities as a citizen and find a rewarding career all in one place!

PATHWAY COURSES & DESCRIPTIONS:

Course 1—Introduction to Law, Public Safety, Corrections and Security - 43.45000
This course will examine the basic concepts of law related to citizens’ rights and responsibilities along with exploring career opportunities in the Law and Public Safety field. Students will receive information and training in the following areas: Dangers in Public Safety (Gangs, Drugs/DUI, Disease) • Handcuffing and Fingerprinting • CERT (Disaster Preparedness, CPR, First Aid, Fire prevention) • Terrorism (International and Domestic) • Criminal and Civil Law

Course 2—Criminal Justice Essentials - 43.45100
This course will examine the history and evolution of the police force as well as the court system. Students will learn skills related to: Traffic and Patrol Operations (Accident Reconstruction, Traffic stops, Types of Patrol) • Civil and Criminal Laws Mock Trial (Pre-trial procedures, steps in a trial, creation of a trial) • Police procedure • Sentencing options (including research on the death penalty)

Course 3—Criminal Investigations - 43.45200
This course provides students with the opportunity to examine the basic principles of forensic science criminal investigations. Including investigative procedures used in: Fingerprinting and analysis • Interviews and interrogations Evaluating criminal behavior • Gathering and Preserving evidence (DNA, Blood Spatter Analysis, Cast molds) • Human Remains

Check out these Georgia schools that offer majors related to Law Enforcement...

Georgia Gwinnett
Georgia State University
Lanier Technical College
University of Georgia
University of North Georgia

HOW MUCH CAN YOU MAKE STARTING OUT NATIONALLY?

<table>
<thead>
<tr>
<th>Law Enforcement Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Paralegal</td>
<td>$45,627</td>
</tr>
<tr>
<td>• Police Officer</td>
<td>$42,506</td>
</tr>
<tr>
<td>• Probation Officer</td>
<td>$40,027</td>
</tr>
<tr>
<td>• Security Manager</td>
<td>$58,146</td>
</tr>
<tr>
<td>• Legal Assistant</td>
<td>$41,591</td>
</tr>
<tr>
<td>• Fraud Investigator</td>
<td>$56,271</td>
</tr>
<tr>
<td>• Administrative Assistant</td>
<td>$35,332</td>
</tr>
<tr>
<td>• Forensic Scientist</td>
<td>$55,200</td>
</tr>
</tbody>
</table>

SkillsUSA is the Career & Technical Student Organization for Law Enforcement Services. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as: Criminal Justice, Crime Scene Investigations, First Aid/CPR, Job Interview, Criminal Justice Quiz Bowl, Job Skill Demonstration, and much more. For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
Did you know that a mechatronics engineer unites the principles of mechanics, electronics, and computing to generate a simpler, more economical and reliable system? The term “mechatronics” was coined by Tetsuro Mori, the senior engineer of the Japanese company Yaskawa in 1969. An industrial robot is a prime example of a mechatronics system; it includes aspects of electronics, mechanics, and computing to do its day-to-day jobs. The Mechatronics program, will provide learning opportunities for advanced engineering skills for our students. It will also provide a highly-skilled technical workforce and will help in attracting new businesses and industry to Barrow County.

**PATHWAY COURSES & DESCRIPTIONS:**

**Course 1—Introduction to Mechatronics - 21.46200**
The first class in the R & A Pathway is the foundation course. This course will introduce direct current concepts and applications, pneumatic system fundamentals, and programmable logic controllers (PLCs). You will cover: Electrical laws and principles • magnetism • series, parallel, and simple combination DC circuits • pneumatic system principles and components • PLC installation and programming.

**Course 2—AC Theory, Electric Motors, and Hydraulic Systems - 21.46300**
This course further expands the student’s knowledge and understanding of Mechatronics by introducing students to: alternating current theory and applications of varying sine wave voltages and current, inductance and capacitance, motor theory and operating principles, control devices, symbols and schematic diagrams, preventative maintenance and troubleshooting, and hydraulic system principles and components.

**Course 3—Semiconductors, Mechanical Systems, and Pumping & Piping Systems - 21.46400**
The students in this capstone class will be introduced to electronics theory, mechanical systems, and pump and piping systems. Topics include, but are not limited to, diodes and amplifiers, semi-conductor fundamentals, mechanical drives, measurement processes and techniques, maintenance tools, manufacturing processes, bearing design and application, and pump and piping systems.

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Mechatronics Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineer</td>
<td>$107,756</td>
</tr>
<tr>
<td>Computer Hardware Engineer</td>
<td>$98,862</td>
</tr>
<tr>
<td>Electrical Engineer</td>
<td>$81,058</td>
</tr>
<tr>
<td>Electronics Engineer</td>
<td>$86,299</td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>$82,222</td>
</tr>
<tr>
<td>Mechanical Engineer</td>
<td>$79,165</td>
</tr>
<tr>
<td>Electro-Mechanical Technician</td>
<td>$56,430</td>
</tr>
<tr>
<td>Environmental Engineering Technician</td>
<td>$40,768</td>
</tr>
<tr>
<td>Industrial Engineering Technician</td>
<td>$54,517</td>
</tr>
<tr>
<td>Mechanical Engineering Technician</td>
<td>$49,504</td>
</tr>
</tbody>
</table>

*Information Found - Department of Defense - 2013 Annual Wages by Job*

Check out these Georgia schools that offer majors related to the Mechatronics Industry...

- Georgia Institute of Technology
- Georgia Southern
- Southern Polytechnic State

The Technology Student Association (TSA) is the only student organization devoted exclusively to the needs of students interested in technology. Members learn through exciting competitive events, leadership opportunities and much more. TSA chapters take the study of STEM (science, technology, engineering, mathematics) beyond the classroom and give students the chance to pursue academic challenges among friends with similar goals and interests. For More Information: Georgia TSA www.gatsa.org; National TSA www.tasweb.org
PATHWAY COURSES & DESCRIPTIONS:

**Course 1—Foundations of Manufacturing and Materials Science - 21.44100**
Foundations of Manufacturing and Materials Science is the introductory course for this pathway. This course provides students with opportunities to become familiar with related careers and develop fundamental technological literacy as they learn about the history, systems, and processes of manufacturing. In addition, the course will provide an overview of the safe use of tools and equipment used in the industry.

**Course 2—Robotics and Automated Systems - 21.44500**
Upon completing this course, students will be able to apply their knowledge of computer aided design (CAD), computer numerical control (CNC), robotics, computer assisted manufacturing (CAM), programmable logic controllers, automated guided vehicles (AGV), and computer integrated manufacturing (CIM).

**Course 3—Production Enterprises - 21.44400**
The purpose of this course is to give students an understanding of how to design and implement a production system. Students learn how businesses engage in the production of products beginning with pre-production activities and continuing through post-production activities. Additionally, students will learn about the historical and societal impact of production. Students will also develop an understanding of careers available in manufacturing and the skills and education required for those careers.

Check out these Georgia schools that offer majors related to the Robotics Industry...

- Athens Technical College
- Georgia Institute of Technology
- Gwinnett Technical College
- Kennesaw State University
- Lanier Technical College
- North Georgia Technical College
- Morehouse College
- Spellman College
- University of Georgia

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Robotics Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer Numerical Control Operator (CNC Operator), Machinist</td>
<td>$37,800</td>
</tr>
<tr>
<td>Electro-Mechanical Technician (E/M Technician)/Engineering Technician</td>
<td>$55,610</td>
</tr>
<tr>
<td>Manufacturing Engineer</td>
<td>$97,300</td>
</tr>
</tbody>
</table>
While all products have to be merchandised and managed, apparel represents a $276 billion retail market in the U.S. Apparel also employs very large numbers of people in design and production, apparel wholesale distribution, and 3 million in apparel retailing. Almost all the clothing bought in the U.S. and around the world is designed, branded and marketed by American companies. It is the job of merchandisers and marketers to determine how to entice customers to buy their products. Those who work in the fashion marketing and merchandising industry market fashion and all other products in wholesale and retail stores.

PATHWAY COURSES & DESCRIPTIONS:

Course 1 — Marketing Principles - 08.47400
This course will serve as the foundational course for all Marketing Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of employability, foundational and business administration skills, instructional projects with real businesses, and work-based learning activities including School-Based Enterprises.

Course 2 — Fashion, Merchandising and Retailing Essentials - 08.42100
Fashion, Merchandising and Retailing Essentials is the second course in this pathway. This course introduces students to the retail industry including the fundamentals of fashion marketing, key marketing concepts essential to every business, types of businesses involved in the industry, and an array of career opportunities. Students will develop skills in such areas as fashion economics, marketing segmentation and target marketing, product selection and buying, and inventory systems.

Course 3 — Advanced Fashion, Merchandising and Retailing - 08.42200
Advanced Fashion, Merchandising and Retailing is the third course in this pathway and focuses on the application of knowledge and the performance of key skills required in a retail environment. Students will develop skills necessary for managing the following elements: pricing, visual merchandising, advertising, special promotions, professional sales, and customer service.

Check out these Georgia schools that offer majors related to Marketing and Management...

Art Institute of Atlanta
Athens Technical College
Bauder College
Brenau University
Clark Atlanta University
Gwinnett Technical College
Lanier Technical College

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

Fashion Merchandising & Retail Marketing
Jobs and Careers  Annual Wages
- Fashion Designers  $65,170
- Wholesale and Retail Buyers  $53,340

DECA is the career and technical student organization for all marketing pathways. DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality, and management in high schools and colleges around the globe.

For More Information:  Georgia DECA - www.georgiadeca.org
National DECA - www.deca.org
Marketing and Management is one of three pathways in the Marketing Cluster. Marketing is the process of developing, promoting, pricing and distributing goods and services to customers in order to satisfy customer wants and needs. Students participating in Georgia’s Marketing and Management Pathway will obtain knowledge and skills in management and entrepreneurship, professional sales and marketing, buying and merchandising, marketing communications and promotion, marketing information management and research, distribution and logistics, global marketing, and e-marketing.

**PATHWAY COURSES & DESCRIPTIONS:**

**Course 1—Marketing Principles - 08.47400**
This course will serve as the foundational course for all Marketing Pathways. Marketing Principles addresses all the ways in which marketing satisfies consumer and business needs and wants for products and services. Students develop a basic understanding of employability, foundational and business administration skills, instructional projects with real businesses, and work-based learning activities including School-Based Enterprises.

**Course 2—Marketing and Entrepreneurship - 08.45100**
This second level course builds on the concepts taught in Marketing Principles. Students will learn about the various types of business ownership and what owning a business involves and requires. Projects include researching famous entrepreneurs, interviewing and having entrepreneur guest speakers, learning about franchises and creating a business plan for a future business.

**Course 3—Marketing Management - 08.45200**
Students assume a managerial perspective in applying economic principles in marketing, analyzing operations needs, examining distribution and financial alternatives, managing marketing information, pricing products and services, developing product/service planning strategies, promoting products and services, purchasing, and professional sales.

Check out these Georgia schools that offer majors related to Marketing and Management...

- Emory University
- Georgia Gwinnett College
- Gwinnett Technical College
- University of Georgia

**HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?**

<table>
<thead>
<tr>
<th>Marketing Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer</td>
<td>$97,448</td>
</tr>
<tr>
<td>Operations Manager</td>
<td>$66,180</td>
</tr>
<tr>
<td>Promotions Manager</td>
<td>$57,491</td>
</tr>
<tr>
<td>Marketing Manager</td>
<td>$68,286</td>
</tr>
<tr>
<td>Purchasing Manager</td>
<td>$68,348</td>
</tr>
</tbody>
</table>

DECA is the career and technical student organization for all marketing pathways. DECA prepares emerging leaders and entrepreneurs in marketing, finance, hospitality, and management in high schools and colleges around the globe.

For More Information: Georgia DECA - www.georgiadeca.org
National DECA - www.deca.org
PATHWAY COURSES & DESCRIPTIONS:

Course 1—Foundations of Engineering and Technology - 21.42500
This STEM driven course provides the student with an overview of engineering and technology including the different methods used in the engineering design process developing fundamental technology and engineering literacy.
Computer Aided Design • Safety • History • Prototyping • Architecture • 3D Modeling • 3D Printing • Laser Cutting • CNC Machining

Course 2—Engineering Concepts - 21.47100
This course introduces the fundamental principles of engineering. Students learn about areas of specialization within engineering, design, engineering graphics and to apply engineering tools and procedures as they complete hands-on projects and analysis. 3D modeling• Computer Simulation • 3D printing • Robotics • Programming • Electronics

Course 3—Engineering Applications - 21.47200
Students have opportunities to apply engineering design as they develop a solution for a technological problem of their choice. Students use applications of mathematics and science to predict the success of an engineered solution. Catapults • Rube Goldberg Machines • Advanced Electronics • Advanced Prototyping • Rockets • Motorcycles • Much More

In a word,... If you love to create, build, tinker and play, this is for you! Students will learn about how to turn an idea into an actual product using the engineering design process. Along the way, they must learn to use tools and technology to ensure the product solves their problem effectively. Students will learn key concepts on several topics including structural design, simple machines, programming, 3D printing, prototyping, electronics, and many more.

Engineering is an exciting career choice because there are many specializations to choose from. The starting salaries are also very high as is the demand, which provides great job security.

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Robotics Jobs &amp; Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineer</td>
<td>$97,480</td>
</tr>
<tr>
<td>Chemical Engineer</td>
<td>$90,300</td>
</tr>
<tr>
<td>Civil Engineer</td>
<td>$77,560</td>
</tr>
<tr>
<td>Electrical Engineer</td>
<td>$87,180</td>
</tr>
<tr>
<td>Electronics Technician</td>
<td>$52,161</td>
</tr>
<tr>
<td>Mechanical Engineer</td>
<td>$79,320</td>
</tr>
<tr>
<td>Environmental Engineer</td>
<td>$78,740</td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>$76,100</td>
</tr>
<tr>
<td>Drafter</td>
<td>$48,257</td>
</tr>
</tbody>
</table>
Do you like cars and trucks? Do you know what makes them tick? Would you like to be able to not only fix your own car or truck but make a real good living fixing them? Then this is the class for you! Do you know how many technicians this country is short right now? Over 100,000 nationwide! You can go anywhere in the country once you learn how to properly repair, service and maintain a car or truck. You will be prepared to work on both Import and Domestic Vehicles when you complete this pathway. You will be able to get an entry level job in the industry, or you will be prepared to go to technical college to continue your automotive education!

PATHWAY COURSES & DESCRIPTIONS:

Course 1—Basic Automobile Maintenance and Light Repair - 47.53110
This course provides the basic knowledge you need for learning how the automotive systems work together, how to do basic diagnosing of the systems, and the basic repairs of those systems. You will also learn about all the job opportunities available in the automotive industry.

Course 2—Automobile Maintenance and Light Repair I - 47.53210
In this course, students will learn the basic skills on how to diagnose and repair starters, alternators, batteries, lighting, and all the other power and accessories that the automobile manufacturers offer in the models today. You will also learn how to read wiring diagrams and learn the electrical symbols.

Course 3—Automobile Maintenance and Light Repair II - 47.53310
In this course, students will learn the automobile preventative maintenance and servicing. Students will learn how to service and repair brakes, and steering and suspension components. The basic skills needed to gain employment as a maintenance and light repair technician will be taught throughout this course.

Check out these Georgia schools that offer majors related to Automotive Maintenance...

Athens Area Technical Institute
DeKalb Technical College
Gwinnett Technical College
Lanier Technical College

HOW MUCH CAN YOU MAKE STARTING OUT IN GEORGIA?

<table>
<thead>
<tr>
<th>Automotive Jobs and Careers</th>
<th>Annual Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Automotive Service Technician</td>
<td>$37,086</td>
</tr>
<tr>
<td>• Parts Salesperson</td>
<td>$32,046</td>
</tr>
<tr>
<td>• Automotive Body Repair</td>
<td>$45,718</td>
</tr>
<tr>
<td>• Service Advisor</td>
<td>$28,000</td>
</tr>
</tbody>
</table>

SkillsUSA is the Career & Technical Student Organization for Automobile Maintenance & Light Repair. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Students can compete regionally, state and nationally in events such as Automotive Brakes, Automotive Electronics/Ignition, Automotive Service Technology, Engine Builders Team, and much more.

For More Information: Georgia SkillsUSA - www.skillsusageorgia.org; National SkillsUSA - www.skillsusa.org
CTAE Flow Chart
Pathways consist of three courses in a related area that are taken sequentially.

Upon completion of a pathway, students have a few options available to them.

- For many career clusters, students may take one additional class which would result in the completion of a second or third pathway in a similar area.
- Students may also apply for Work-Based Learning. This is an opportunity students (that are at least 16 years old) to work in a local business through an internship or paid part-time position that is related to their career pathway and career goals. See the WBL Coordinator at your high school for more details.
- Students may also want to consider dual enrollment options. This would enable the student to continue their study in that specific area with more rigorous content and earn college credit and high school credit at the same time. Please see the Career Counselor at your high school for more details.

Work-Based Learning is offered as a culminating experience for all pathways, including fine art, modern language, and academic. Students are placed at worksites where they gain real-world experience.

What will you do in Work-Based Learning?
- Work at a job site as part of your school day (during normal class periods)
- Gain relevant skills in a chosen career area
- Develop professional relationships
- Develop a career portfolio
- Make decisions about future education and training

Talk to the Work-Based Learning Coordinator at your school to see if this is the right opportunity for you and to apply for next year.
Georgia’s Dual Enrollment Program (previously Move On When Ready) allows high school students in grades 9 through 12th grade to earn college credit while working on their high school diploma. The goal of Dual Enrollment is to increase college access and completion, and to prepare students to enter the workforce with the skills they need to succeed. This is an incredible opportunity that also reduces the financial burdens on families for the cost of college.

To participate in Dual Enrollment, students must meet the admissions requirements at the post-secondary institution of their choice and make satisfactory academic progress throughout their classes. Eligible students may choose to pursue a post-secondary degree, diploma, or certificate or take individual classes. Students may attend part-time, which is most common, or full-time.

The Dual Enrollment program covers tuition, mandatory fees, and required textbooks. Students may incur expenses for course related fees and supplies required for a particular course. Students are responsible for providing their own transportation for dual enrollment. Shuttles to and from Sims Academy on the Workforce Development Campus can be utilized to the Lanier Technical College Barrow on days when BCSS are in session.

For more information about Dual Enrollment, please contact the Career Coordinator at your school.
WBHS Fine Arts Flow Chart
A sequence of three fine arts courses constitutes a pathway

**Band**
- Intermediate Band I
  - Advance Band I*
  - Percussion I
  - Mariachi I
- Intermediate Band II
  - Advance Band II
  - Percussion II
  - Mariachi II
- Intermediate Band III
  - Advance Band III
  - Percussion III
  - Mariachi III
- Intermediate Band IV
  - Advance Band IV

**Drama**
- Drama I (52.0210001)
- Drama II (52.0220001) or Drama Musical I (52.0310001)
- Drama III (52.0230001) or Drama Musical II (52.0320001)
- Drama IV (52.0240001) or Drama Musical III (52.0330001)

**Art**
- Art I (50.0211001)
- Art II (50.0212001)
- Art III (50.0213001)
- Art IV (50.0214001)

**Chorus**
- Inter. Mix Chorus I
  - Adv Mix Chorus I*
  - Women's Chorus I*
- Inter. Mix Chorus II
  - Adv Mix Chorus II
  - Women's Chorus II
- Inter. Mix Chorus III
  - Adv Mix Chorus III
  - Women's Chorus III
- Inter. Mix Chorus IV
  - Adv Mix Chorus IV
  - Women's Chorus IV

*A (*) denotes a course that requires an audition for entry

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**WBHS World Language Course Progression**

2 Sequential Units Required for 4 Year College Admission
3 Sequential Units Required for a World Language Pathway

**French I (60.0110001)**
- French II (60.0120001)
- French III (60.0130002)
- French IV (60.0140002)

**Spanish I (60.0710001)**
- Spanish I Honors
- Spanish II (60.0720001)
- Spanish II Honors (60.0720003)
- Spanish III (60.0730002)
- Spanish III Honors
- Spanish IV (60.0740002)
- Spanish IV Honors
- Advanced Placement Spanish Language (60.0770004)

**Natives I (60.0790001)**
- Spanish III (60.0730002)
- Spanish III Honors
- Natives II (60.0791001)
- Spanish IV (60.0740002)
- Spanish IV Honors
- Advanced Placement Spanish Language (60.0770004)
WBHS English Language Arts Flow Chart

4 Units Required for Graduation

Academic Advanced Pathway Criteria for ELA:
1. Student graduated, thereby completing 4 required ELA units, AND
2. Student’s course history in ELA includes at least one AP course or one post-secondary enrollment that fulfills a core graduation requirement, AND
3. Student earned credits in two sequential courses in one world language.

Ninth Grade Literature/Composition

- 23.0610001
  - Required for Graduation
  - A state-mandated Georgia Milestone is required
  - Interrelated - 23.9610001
  - Sheltered - 23.0610077

Tenth Grade Literature/Composition

- 23.0620001
  - Required for Graduation
  - Interrelated - 23.9620001
  - Sheltered - 23.0620077

American Literature/Composition

- 23.0510002
  - Required for Graduation
  - A state-mandated Georgia Milestone is required
  - Interrelated - 23.9510002
  - Sheltered - 23.0510077

English Literature/Composition

- 23.0520002
  - Required for Graduation
  - Interrelated - 23.9520002
  - Sheltered - 23.0520077
  - OR
  - Advanced Composition - 23.0340001

American Literature/Composition - HONORS

- 23.0510003
  - Required for Graduation
  - A state-mandated Georgia Milestone is required
  - Interrelated - 23.9510003
  - OR AP Language/Composition - 23.0430014
  - Gifted - 23.2430014

English Literature/Composition - HONORS

- 23.0520003
  - Required for Graduation
  - Interrelated - 23.9520003
  - OR
  - AP Literature/Composition - 23.0650014
  - Gifted - 23.2650014

ELA Electives

- Journalism Yearbook I (23.0320021)
- Journalism Yearbook II (23.0330021)
- Journalism Yearbook III (23.0350021)
- Journalism Yearbook IV (23.0360021)
- Mythology (23.0210001)
4 Units Required for Graduation

Academic Advanced Pathway Criteria for ELA:
1. Student graduated, thereby completing 4 required ELA units, AND
2. Student’s course history in ELA includes at least one AP course or one post-secondary enrollment that fulfills a core graduation requirement, AND
3. Student earned credits in two sequential courses in one world language.

Algebra I - 27.0990001
**Required for Graduation**
A state-mandated Georgia Milestone is required
Interrelated 27.9990001
Sheltered 27.0990077

Geometry - 27.0991002
**Required for Graduation**
A state-mandated Georgia Milestone is required
Interrelated 27.9991001
Sheltered 27.0991077

Algebra II - 27.0992001
**Required for Graduation**
Interrelated - 27.9992001
Sheltered - 27.0992077

Pre-Calculus - 27.0974003
Teacher Recommendation required
**Required for Graduation**
Gifted - 27.2974003

Calculus - 27.0780003
**Gifted** - 27.2780003
OR
Calculus Honors AP
Calculus - 27.0780003
27.0720014
Gifted - 27.2780003 27.2720014
OR
AP Statistics - 27.0740014
Gifted - 27.2740014
Strongly recommend taking Statistical Reasoning prior

*Statistical Reasoning (see left side) is an option for accelerated students

**MA Electives**

Algebra I Support - 27.1997000
Interrelated - 27.9997000
Sheltered - 27.1997077

Geometry Support - 27.1998011
Interrelated - 27.9998011
Sheltered - 27.1998077

Algebra II Support - 27.1999011
Interrelated - 27.9999011
Sheltered - 27.1999077
WBHS Social Studies Flow Chart

4 Units Required for Graduation

World History 45.0830092
Required for Graduation
Interrelated 45.9830092
Sheltered 45.0830077

World History HONORS 45.0830003
Required for Graduation
Gifted 45.2830003 OR
AP World History 45.0811004
Gifted 45.2811004

US History 45.0810002
Required for Graduation
A state-mandated Georgia Milestone is required
Interrelated 45.9810002
Sheltered 45.0810077

US History HONORS 45.0810003
Gifted 45.2810003
Required for Graduation
A state-mandated Georgia Milestone is required
Gifted 45.2810003
OR
AP US HISTORY 45.0820024
Gifted 45.2820024

American Government & Civics 45.0570002
Required for Graduation
Interrelated 45.9570002
Sheltered 45.0570077

American Government & Civics HONORS 45.0570003
Required for Graduation
Gifted 45.2570003 OR
AP American Government 45.0520004
Gifted 45.252.0004

Economics 45.0610002
Required for Graduation
A state-mandated Georgia Milestone is required
Interrelated 45.9610001

Economics HONORS 45.0610003
Required for Graduation
A state-mandated Georgia Milestone is required
Gifted 45.2610003 OR
AP Macroeconomics 45.0620004
Gifted 45.2620004
Spring Semester ONLY - preceded by Economics or AP Macroeconomics
AP Microeconomics (GAVS only) 45.0630014
Gifted 45.2630014

SS Electives

AP Psychology 45.0160014
Gifted 45.2160014

AP Human Geography 45.0770014
Gifted 45.2770014
Barrow County School System and Lanier Technical College work together to increase the skill sets of graduates on the Workforce Development Campus. The Sims Academy of Innovation and Technology and Lanier Technical College share the Barrow campus and a common vision of developing workforce-ready students who can walk into high-paying industries in our region.

The Sims Academy of Innovation and Technology, established in 2014, is one of 40 College & Career Academies in Georgia. The Sims Academy focuses on developing students with a foundation of employability skills with applied academic knowledge and technical skills in industries such as robotics, culinary arts, broadcast video, mechatronics, and marketing. Students in grades 9 through 12 can prepare for their future by experiencing cutting edge career readiness and employability skill training at Sims Academy.

The Lanier Technical College campus in Barrow opened for students in 2015. Lanier Technical College, a unit of the Technical College System of Georgia, prepares students for high-wage, high-demand careers.

Lanier Technical College offers dual enrollment for students in the Barrow County School System. Students can receive both high school and technical college credit by completing dual enrollment courses.

On the Winder Campus, the following programs and courses are offered:

**Occupational Programs**
- Accounting
- Allied Health
- Automotive Technology
- Building Automation Systems
- Business Administration Technology
- Business Management
- Criminal Justice
- Culinary Arts
- Early Childhood Education
- Emergency Management
- Mechatronics Technologies
- Welding
- Wireless Engineering Technology

**Core Academic Classes**
- American Government
- American Literature
- Biology
- Calculus
- Chemistry
- Algebra
- Economics
- English Composition
- Pre-Calculus
- Physics
- Psychology
- Public Speaking
- Sociology
- Statistics
- US History
- World History

*Did you know? Over 25 courses from the Technical College System of Georgia (which includes Lanier Technical College) will transfer to the University System of Georgia? Check out the complete list here: