Preparing students for success after high school is an inherent component of the Douglas County School System’s vision. Whether students plan to enter the workforce immediately or attend college after high school graduation, careful consideration of high school course options can impact their futures. To better prepare students for the demands of the 21st century economy and for post-secondary education, the Douglas County School System has provided this planning guide for use by students and their parents.

Use this planning guide for the next four years to set career goals and plan for the world of future work. Go over the information in the guide together and begin to have discussions concerning post high school plans and how you can reach the goals that you set. Bring this guide with you to each annual advisement appointment at your high school and share with your advisor as you all work together to map out the next year’s schedule of courses. Finally, mark your choices in the guide as you go through high school and as your career decisions possibly change and evolve.

This planning guide shows the clear connection between class work and future success, pointing out the relevance of academic learning in the classroom. It also provides information on a variety of occupations that differ in the scope of education and training required to obtain future employment.
WHAT ARE CAREER PATHWAYS?

Career Pathways are state-approved career enhancement programs defined as a coherent, articulated sequence of rigorous academic and career-related courses starting in the ninth grade and leading to an associate degree, and/or an industry-recognized certificate or licensure, and/or a baccalaureate degree and beyond.

Career, Technical, and Agricultural Education (CTAE) provides students with the opportunity to select at least three sequenced courses in a career pathway.

CTAE CONCENTRATOR: A concentrator is defined as a student who takes at least three CTAE courses in a specific program area during their high school career.

PATHWAY COMPLETER: A pathway completer is a concentrator who completes the requirements for CTAE pathway concentrators.

Selection of a pathway is based on self-awareness and the investigation of occupations plus related educational levels aligned with the pathway. Most high-demand, high-skilled, high-wage occupations in all concentrations still require education beyond high school.

Implementation of career pathways is a collaborative effort between the Douglas County School System, the Georgia Department of Education, the Technical College System of Georgia and the University System of Georgia.

OVERVIEW OF CAREER CLUSTERS/PATHWAYS

- Georgia’s 17 Career Cluster/Pathways provide a structure for organizing and delivering quality Career, Technical and Agricultural Education (CTAE) programs.

- Modeled after the National Career Clusters configuration utilized by most of the United States, Georgia’s 17 Career Cluster/Pathways Model represents approximately 96 career pathways to help students navigate their way to greater success in college and career.

- As an organizing tool for curriculum design and instruction, the 17 Career Clusters provide essential knowledge and skills for the students’ career pathways.

- This model functions as a:
  - Useful guide in developing programs of study that bridge secondary and postsecondary curriculum
  - Indicator of a range of career options for students’ graduation plans of study
  - Method of allowing students to discover their interests and passions, empowering them to choose the educational pathway that may lead to success in high school, college and career

- The 17 Career Cluster/Pathways encompass both secondary and postsecondary education and will strengthen and improve student transition from secondary to postsecondary education.
An Advanced Academic Pathway may be followed in any of these four content areas: ELA (English/Language Arts), mathematics, science or social studies. A student has completed an Advanced Academic Pathway in ELA, mathematics, science, or social studies when the criteria described below have been met.

EXPLANATION OF TERMS

CTAE Pathway
A series of 3 or 4 specified courses in a CTAE-approved pathway. Consult your district CTAE Director/Coordinator for specific course codes or contact Dawn Mann at GaDOE, dmann@doe.k12.ga.us

Advanced Academic Pathway
An advanced Academic Pathway may be followed in any of these four content areas: ELA, mathematics, science or social studies. A student has completed an Advanced Academic Pathway in ELA, mathematics, science, or social studies when the criteria described in A (page 5) have been met.

Fine Arts Pathway
A Fine Arts Pathway may be followed in any of these five areas of study: visual arts, theater, dance, music, or journalism. A student has completed a Fine Arts Pathway when three courses, from those identified in the five accompanying attachments (B-Visual Arts, C-Theater, D-Dance, E-Music, F-Journalism), have been successfully completed in any one of the five areas.

World Language Pathway
A World Language Pathway may be followed in any of the world language areas included in the state list of approved courses. A student has completed a World Language Pathway when the criteria described have been met.
ADDITIONAL PATHWAYS

ADVANCED ACADEMIC PATHWAY IN ELA (ENGLISH/LANGUAGE ARTS) CRITERIA:

1. Student graduated, thereby completing 4 required credits in ELA, AND

2. Student’s course history in ELA (23 course codes) includes at least one AP* Course Code (23.043; 23.053; 23.065) or one IB* Course Code (23.06800; 23.06900; 23.06110; 23.06120; 23.06130) or one post secondary enrollment code in 23 that fulfills a core graduation requirement in ELA, AND

3. Student earned credits in two sequential courses in one world language.

ADVANCED ACADEMIC PATHWAY IN MATHEMATICS CRITERIA:

1. Student graduated, thereby completing 4 required credits in mathematics, AND

2. Student's course history in mathematics (27 course codes) includes at least one AP* Course Code (27.072; 27.073; 27.074) or one IB* Course Code (27.06120; 27.06130; 27.05220; 27.05240) or one post secondary enrollment code in 27 that fulfills a core graduation requirement in Mathematics, AND

3. Student earned credits in two sequential courses in one world language.

ADVANCED ACADEMIC PATHWAY IN SCIENCE CRITERIA:

1. Student graduated, thereby completing 4 required credits in science, AND

2. Student's course history in science (26 course codes and 40 course codes) includes at least one AP* Course Code (26.014; 26.062; 40.053; 40.083; 40.0841; 40.0842) or one IB* Course Code (26.01800; 26.01900; 26.06300; 40.08500; 40.08600) or one post secondary enrollment code in 26 or 40 that fulfills a core graduation requirement in Science, AND

3. Student earned credits in two sequential courses in one world language.

ADVANCED ACADEMIC PATHWAY IN SOCIAL STUDIES CRITERIA:

1. Student graduated, thereby completing 3 required credits in social studies, AND

2. Student's course history in social studies (45 course codes) includes at least one AP* Course Code (45.016; 45.052; 45.053; 45.062 45.063; 45.077; 45.0811; 45.0812; 45.084) or one IB* Course Code (45.01310; 45.01320; 45.01700; 45.017100; 45.06500; 45.06600; 45.07800; 45.07900; 45.08700; 45.08800; 45.08900) or one post secondary enrollment code in 45 that fulfills a core graduation requirement in Social Studies, AND

3. Student earned credits in two sequential courses in one world language.

WORLD LANGUAGE PATHWAY GUIDELINES AND PATHWAY CRITERIA:

1. Student graduated, AND

2. Student's course history in one world language includes 3 distinct high school Course Codes OR includes at least 2 distinct Course Codes plus a third code reflecting an AP* course, where AP courses are offered (60.017, French; 60.077, Spanish; 60.078, Spanish Lit; 61.017, German; 61.047, Latin; 62.0196, Chinese; 63.039, Japanese); or a third code reflecting an IB* course, where courses are offered (French, 60.01120, 60.01130; Spanish, 60.07130, 60.07160; German, 61.01120, 61.01130; Latin, 61.04120, 61.04130; Chinese, 62.01900, 62.01910; Japanese, 62.03920, 62.03930; Arabic, 63.10700, 63.01800;) or one post secondary enrollment course code in the same World Language reflecting a third course at the college level.

* AP, IB and Dual Enrollment courses must have earned credit
DEAR PARENTS AND STUDENTS 2
WHAT ARE CAREER PATHWAYS? 3
ADDITIONAL PATHWAYS 4-5
TABLE OF CONTENTS 6-9
GEORGIA’S HOT CAREERS TO 2024 10-11
GEORGIA’S STEM CAREERS TO 2024 12-13
NAVIGATING THE JOURNEY 14
INFORMATION FOR STUDENTS ENTERING HIGH SCHOOL 15-16
CTAE FOURTH SCIENCE AND EMBEDDED COURSES 17
CERTIFICATIONS, OPPORTUNITIES AND RESOURCES 18
HIGH SCHOOL CAREER PATHWAYS 2019-2020 OPTIONS 19
PATHWAYS 20-52

AGRICULTURE, FOOD AND NATURAL RESOURCES
Careers with common knowledge and skills related to production, processing, marketing, financing, distribution, and development of agricultural commodities and resources. These commodities include food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Forestry/Wildlife Systems pathway 20
Plant and Landscape Systems pathway 21

ARCHITECTURE AND CONSTRUCTION
Careers with common knowledge and skills related to the designing, planning, managing, and building structures

Architectural Drafting pathway 22

ARTS, AUDIO-VIDEO TECHNOLOGY AND COMMUNICATIONS
Careers with common knowledge and skills related to designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

Audio/Video Technology and Film pathway 23
Graphic Communications pathway 24

© Copyright 2019, Douglas County Board of Education, Douglasville, GA.
Employees, students and the general public are hereby notified that the Douglas County Board of Education does not discriminate on the basis of sex, race, religion, national origin, handicap or age in its education programs, activities or employment practices.
DISCLAIMER: The information contained within this book is as accurate as possible at the time of publication. Classes offered at each high school can change due to scheduling and allotment conflicts.
This Career Pathways Planner is provided by the US DOE Carl Perkins Grant.
### BUSINESS MANAGEMENT AND ADMINISTRATION

Careers with common knowledge and skills related to the preparation of students with computer skills for future college and career plans. Cluster skills mastered include planning, organizing, directing, and evaluating as well as owning and operating a successful business.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business and Technology pathway</td>
<td>25</td>
</tr>
<tr>
<td>Entrepreneurship pathway</td>
<td>26</td>
</tr>
<tr>
<td>Human Resources Management pathway</td>
<td>27</td>
</tr>
</tbody>
</table>

### EDUCATION & TRAINING

Careers with common knowledge and skills related to planning, managing, and providing education and training services as well as related learning support services.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Childhood Care and Education pathway</td>
<td>28</td>
</tr>
<tr>
<td>Teaching as a Profession pathway</td>
<td>29</td>
</tr>
</tbody>
</table>

### FINANCE

Careers with common knowledge and skills related money management, including planning, investing, and spending. Students gain career development skills for the finance world with opportunities that expand beyond basic business skills into financial literacy, banking, investing, insurance, and risk management.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Accounting pathway</td>
<td>30</td>
</tr>
<tr>
<td>Business Accounting pathway</td>
<td>31</td>
</tr>
<tr>
<td>Financial Services pathway</td>
<td>32</td>
</tr>
</tbody>
</table>

### GOVERNMENT AND PUBLIC ADMINISTRATION

Careers with common knowledge and skills related to planning and performing of government management and administrative functions at local, state, and federal levels. Careers are available in national security, foreign service, revenue, and regulations.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>JROTC - Army</td>
<td>33</td>
</tr>
<tr>
<td>JROTC - Marines</td>
<td>34</td>
</tr>
<tr>
<td>JROTC - Navy</td>
<td>35</td>
</tr>
</tbody>
</table>

### HEALTH SCIENCE

Careers with common knowledge and skills related to planning, managing, and providing services in therapeutics, diagnostics, health informatics, support areas, and biotechnology research and development.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Therapeutic Services - Allied Health &amp; Medicine pathway</td>
<td>36</td>
</tr>
<tr>
<td>Therapeutic Services - Sports Medicine pathway</td>
<td>37</td>
</tr>
<tr>
<td>Therapeutic Services - Emergency Medical Responder pathway</td>
<td>38</td>
</tr>
</tbody>
</table>
# School Key System

Throughout this book, a school key system is used to indicate which programs, classes, and clubs are offered at each school. If the ● is replaced with a ■ this indicates the class is Industry Certified. See page 21 for additional information on Industry Certification.

- Alexander High School
- Chapel Hill High School
- Douglas County High School
- Lithia Springs High School
- New Manchester High School
- College & Career Institute

# Table of Contents

## Hospitality and Tourism

Careers with common knowledge and skills related to the management, marketing, and operations of restaurants, and other food services, lodging, attractions, recreation events, and travel related services.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports and Entertainment Marketing</td>
<td>39</td>
</tr>
<tr>
<td>Hospitality, Recreation and Tourism</td>
<td>40</td>
</tr>
</tbody>
</table>

## Human Services

Careers with common knowledge and skills related to family and human needs such as nutrition and food science, counseling and mental health services, family and community services, personal care, and consumer services.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition and Food Science</td>
<td>41</td>
</tr>
<tr>
<td>Personal Care Services - Cosmetology</td>
<td>42</td>
</tr>
</tbody>
</table>

## Information Technology

Careers with common knowledge and skills related to the preparation for careers that create, use, modify, and engage technology skills. Graphics, multimedia animation, web design, game and application development, networking, and computer repair are all possibilities.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web and Digital Design</td>
<td>43</td>
</tr>
<tr>
<td>Internet of Things</td>
<td>44</td>
</tr>
<tr>
<td>Programming</td>
<td>45</td>
</tr>
<tr>
<td>Computer Science</td>
<td>46</td>
</tr>
<tr>
<td>Cybersecurity</td>
<td>47</td>
</tr>
</tbody>
</table>

## Law, Public Safety, Corrections and Security

Careers with common knowledge and skills related to employment in emergency and fire services, legal services, protective services, and homeland security.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law Enforcement Services</td>
<td>48</td>
</tr>
</tbody>
</table>

## Marketing

Careers with common knowledge and skills related to the process of anticipating, managing, and satisfying consumers’ demand for products, services, and ideas. The Marketing career cluster generates the strategy that underlies advertising and promotional techniques, business communication, and business development.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing and Management</td>
<td>49</td>
</tr>
</tbody>
</table>

## Science, Technology, Engineering and Mathematics

Careers with common knowledge and skills related to planning, managing, and providing scientific research and professional and technical services.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering and Technology</td>
<td>50</td>
</tr>
<tr>
<td>Engineering Drafting and Design</td>
<td>51</td>
</tr>
</tbody>
</table>
## Table of Contents

**SCHOOL KEY SYSTEM**
Throughout this book, a school key system is used to indicate which programs, classes, and clubs are offered at each school. If the ⚪ is replaced with a ■ this indicates the class is Industry Certified. See page 21 for additional information on Industry Certification.

<table>
<thead>
<tr>
<th>School Key System</th>
<th>School Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚪</td>
<td>Alexander High School</td>
</tr>
<tr>
<td>⚪</td>
<td>Chapel Hill High School</td>
</tr>
<tr>
<td>⚪</td>
<td>Douglas County High School</td>
</tr>
<tr>
<td>⚪</td>
<td>Lithia Springs High School</td>
</tr>
<tr>
<td>■</td>
<td>New Manchester High School</td>
</tr>
<tr>
<td>■</td>
<td>College &amp; Career Institute</td>
</tr>
</tbody>
</table>

## Transportation, Distribution & Logistics
Careers with common knowledge and skills related to planning, managing, and moving people, materials, and goods by road, pipeline, air, rail, and water, and also includes other related professional and technical support services.

<table>
<thead>
<tr>
<th>Pathway</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile Maintenance Light Repair pathway</td>
<td>52</td>
</tr>
</tbody>
</table>

### Specialties

<table>
<thead>
<tr>
<th>Specialties</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Enrollment</td>
<td>53-54</td>
</tr>
<tr>
<td>Douglas County College and Career Institute (CCI)</td>
<td>55-57</td>
</tr>
<tr>
<td>Work-Based Learning/Youth Apprenticeship</td>
<td>58-59</td>
</tr>
</tbody>
</table>

## Career and Technical Student Organizations

<table>
<thead>
<tr>
<th>Organization</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECA (Distributive Education Clubs of America)</td>
<td>61</td>
</tr>
<tr>
<td>FBLA (Future Business Leaders of America)</td>
<td>61</td>
</tr>
<tr>
<td>FCCLA (Family, Career, &amp; Community Leaders of America)</td>
<td>61</td>
</tr>
<tr>
<td>FFA (Association of Agricultural Students)</td>
<td>61</td>
</tr>
<tr>
<td>FIRST Robotics</td>
<td>61</td>
</tr>
<tr>
<td>HOSA (Future Health Professionals)</td>
<td>62</td>
</tr>
<tr>
<td>SkillsUSA (Champions at Work)</td>
<td>62</td>
</tr>
</tbody>
</table>

## Academic and Honors, AP Classes

<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>63-65</td>
</tr>
<tr>
<td>Mathematics</td>
<td>66-68</td>
</tr>
<tr>
<td>Science</td>
<td>69-71</td>
</tr>
<tr>
<td>Social Studies</td>
<td>72-74</td>
</tr>
</tbody>
</table>

## Electives

<table>
<thead>
<tr>
<th>Elective</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Language</td>
<td>75-77</td>
</tr>
<tr>
<td>Physical Education</td>
<td>78-79</td>
</tr>
<tr>
<td>Fine Arts (all high schools except NMHS)</td>
<td>80-84</td>
</tr>
<tr>
<td>Magnet FAME Fine Arts Programs (NMHS only)</td>
<td>85-91</td>
</tr>
</tbody>
</table>

## International Baccalaureate Diploma

<table>
<thead>
<tr>
<th>Diploma</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>All classes and courses (DCHS only)</td>
<td>92-98</td>
</tr>
</tbody>
</table>

## STEM Academy

<table>
<thead>
<tr>
<th>Academy</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>All classes and courses (LSHS only)</td>
<td>99-102</td>
</tr>
</tbody>
</table>
# Georgia’s Careers to 2026

The careers in this chart have it all!

<table>
<thead>
<tr>
<th>Skills and Abilities</th>
<th>Work Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced skills required</td>
<td>Frequently found</td>
</tr>
<tr>
<td>Moderate skills required</td>
<td>Occasionally found</td>
</tr>
</tbody>
</table>

| Hot Jobs have faster than state annual average job growth, above the state annual average wage, and have at least 400 annual openings. |

## Doctoral or Professional Degree

<table>
<thead>
<tr>
<th>Career</th>
<th>Skills and Abilities</th>
<th>Work Activities</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Therapists</td>
<td>• • • • • • • • • •</td>
<td>• • • • • • • • •</td>
<td>$86,800</td>
</tr>
<tr>
<td>Physicians &amp; Surgeons, All Other</td>
<td>• • • • • • • • •</td>
<td>• • • • • •</td>
<td>$255,000</td>
</tr>
<tr>
<td>Postsecondary Teachers, All Other</td>
<td>• • • • • • • • •</td>
<td>• • • • • •</td>
<td>$77,200</td>
</tr>
</tbody>
</table>

## Master’s Degree

<table>
<thead>
<tr>
<th>Career</th>
<th>Skills and Abilities</th>
<th>Work Activities</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Administrators, Emer &amp; Soc</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$94,600</td>
</tr>
<tr>
<td>Educational Guidance Counselors</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$63,500</td>
</tr>
<tr>
<td>Healthcare Social Workers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$51,200</td>
</tr>
<tr>
<td>Instructional Coordinators</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$57,600</td>
</tr>
<tr>
<td>Nurse Practitioners</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$101,900</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$100,800</td>
</tr>
</tbody>
</table>

## Bachelor’s Degree

<table>
<thead>
<tr>
<th>Career</th>
<th>Skills and Abilities</th>
<th>Work Activities</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountants &amp; Auditors</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$78,100</td>
</tr>
<tr>
<td>Administrative Services Managers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$63,900</td>
</tr>
<tr>
<td>Airline Pilots, Copilots, &amp; Flight Engineers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$92,000</td>
</tr>
<tr>
<td>Business Operations Specialists, All Other</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$71,800</td>
</tr>
<tr>
<td>Civil Engineers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$90,200</td>
</tr>
<tr>
<td>Coaches and Scouts</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$47,500</td>
</tr>
<tr>
<td>Computer &amp; Information Systems Managers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$138,800</td>
</tr>
<tr>
<td>Computer Occupations, All Other</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$85,200</td>
</tr>
<tr>
<td>Construction Managers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$105,800</td>
</tr>
<tr>
<td>Cost Estimators</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$62,300</td>
</tr>
<tr>
<td>Elementary School Teachers, Except Special Ed</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$55,600</td>
</tr>
<tr>
<td>Financial Analysts</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$83,500</td>
</tr>
<tr>
<td>Financial Managers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$143,700</td>
</tr>
<tr>
<td>Financial Specialists, All Other</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$77,900</td>
</tr>
<tr>
<td>General &amp; Operations Managers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$116,900</td>
</tr>
<tr>
<td>Health Education</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$77,100</td>
</tr>
<tr>
<td>Human Resource Managers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$122,400</td>
</tr>
<tr>
<td>Human Resource Specialists</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$61,200</td>
</tr>
<tr>
<td>Industrial Engineers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$82,800</td>
</tr>
<tr>
<td>Kindergarten Teachers, Except Special Ed</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$53,300</td>
</tr>
<tr>
<td>Loan Officers</td>
<td>• • • • • • • • •</td>
<td>• • • • • • •</td>
<td>$78,900</td>
</tr>
</tbody>
</table>

# Georgia’s Careers to 2026

The careers in this chart have it all!

## Skills and Abilities
- Advanced skills required
- Moderate skills required

## Work Activities
- Frequent found
- Occasionally found

HOT jobs have higher than state annual average job growth, above the state annual average wages, and have at least 1000 annual openings.

<table>
<thead>
<tr>
<th>Bachelor’s degree continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics</td>
</tr>
<tr>
<td>Management Analysis</td>
</tr>
<tr>
<td>Market Research, Analysis &amp; Marketing Spec</td>
</tr>
<tr>
<td>Marketing Managers</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
</tr>
<tr>
<td>Medical &amp; Health Services Managers</td>
</tr>
<tr>
<td>Middle School Teachers, Spec &amp; CareerTech Ed</td>
</tr>
<tr>
<td>Personal Financial Advisors</td>
</tr>
<tr>
<td>Producers &amp; Directors</td>
</tr>
<tr>
<td>Public Relations Specialists</td>
</tr>
<tr>
<td>Registered Nurses</td>
</tr>
<tr>
<td>Sales Managers</td>
</tr>
<tr>
<td>Secondary School Teachers, Spec &amp; CareerTech Ed</td>
</tr>
<tr>
<td>Software Developers, Applications</td>
</tr>
<tr>
<td>Training &amp; Development Specialists</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Associate’s degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Hygienists</td>
</tr>
<tr>
<td>Emergency &amp; Allied Assistants</td>
</tr>
</tbody>
</table>

## Postsecondary non-degree award
Aircraft Mechanics & Service Technicians | $70,000 | 900 |

## Some college, no degree
Computer User Support Specialists | $54,200 | 1,930 |

## High school diploma or equivalent
Automotive Body & Related Repairers | $51,500 | 620   |
Electric Power Line Installers & Repairers | $51,000 | 630   |
Supervisors of Construction Trades & Extraction Workers | $62,400 | 1,990 |
Supervisors of Helpers, Laborers, & Material Movers, Hand | $51,600 | 3,010 |
Supervisors of Mechanics, Installers, & Repairers | $62,500 | 2,460 |
Insurance Sales Agents | $67,800 | 1,820 |
Production, Planning, & Expediting Clerks | $48,500 | 1,290 |
Property, Real Estate, & Community Association Managers | $86,700 | 300   |
Sales Reps, Services, All Other | $58,800 | 4,050 |
Sales Reps, Wholesale & Mfg, Excl Tech & Scientific Products | $65,600 | 6,900 |

**Note:** This workforce product was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The product was created by the Georgia Department of Labor and does not necessarily reflect the official position of the U.S. Department of Labor. This product is copyrighted by the institution that created it. It is not copyrighted by any organization or individual, and it is available for non-commercial purposes only. Users are required to provide proper attribution of the copyrighted source.

For more information, please contact Workforce Statistics & Economic Research at (404) 232-3875 • Fax (404) 232-3888
Email: Workforce_Info@gdol.ga.gov
# GEORGIA’S STEM Careers to 2026

## Science | Technology | Engineering | Mathematics

<table>
<thead>
<tr>
<th>Knowledge</th>
<th>Education</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
</table>

## Life and Physical Science, Engineering, Mathematics, and Information Technology Occupations

| Aerospace Engineers | $122,000 | 240 |
| Civil Engineering Technicians | $47,600 | 136 |
| Civil Engineers | $92,200 | 300 |
| Computer & Information Systems Managers | $128,800 | 1,040 |
| Computer Network Architects | $117,200 | 350 |
| Computer Network Support Specialists | $73,100 | 582 |
| Computer Occupations, All Other | $88,200 | 735 |
| Computer Systems Analysts | $59,300 | 1,150 |
| Computer User Support Specialists | $54,400 | 1,390 |
| Database Administrators | $89,600 | 350 |
| Electrical & Electronics Engineering Technicians | $60,200 | 360 |
| Electrical Engineers | $90,500 | 340 |
| Electronics Engineers, Except Computer | $59,700 | 450 |
| Engineers, All Other | $92,100 | 230 |
| Environmental Engineers | $68,200 | 110 |
| Industrial Engineers | $82,600 | 580 |
| Information Security Analysts | $91,000 | 210 |
| Mechanical Engineers | $63,700 | 430 |
| Medical Scientists, except Epidemiologists | $64,000 | 150 |
| Network & Computer Systems Administrators | $88,200 | 750 |
| Operations Research Analysts | $64,300 | 240 |
| Sales Reps, Wholesale & Mfg, Tech & Scientific Products | $88,000 | 1,040 |
| Software Developers, Applications | $103,000 | 2,100 |
| Software Developers, Systems Software | $98,600 | 970 |
| Statisticians | $67,200 | 310 |
| Surveying & Mapping Technicians | $54,100 | 240 |
| Web Developers | $78,200 | 350 |

## Health Occupations

| Dental Hygienists | $66,100 | 400 |
| Dentists, General | $176,100 | 160 |
| Diagnostic Medical Sonographers | $63,000 | 580 |
| Emergency Medical Technicians & Paramedics | $53,800 | 735 |
| Family & General Practitioners | $113,000 | 150 |
| Health Diagnosis & Treating Practitioners, All Other | $103,500 | 190 |


Georgia Department of Labor • Mark Butler, Commissioner
Equal Opportunity Employer/Program • Auxiliary Aids and Services Available upon Request to Individuals with Disabilities
# STEM Careers to 2026

**Science | Technology | Engineering | Mathematics**

## Health Occupations Continued

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Education</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Technologists &amp; Technicians, All Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internists, General</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Licensed Practical &amp; Licensed Vocational Nurses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Med &amp; Clinical Laboratory Technicians</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Med &amp; Clinical Laboratory Technologists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Med Records &amp; Health Information Tech</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse Practitioners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Instructors &amp; Teachers, Postsec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational Therapists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacists</td>
<td></td>
<td>$117,600.00</td>
</tr>
<tr>
<td>Pharmacy Technicians</td>
<td></td>
<td>$29,400.00</td>
</tr>
<tr>
<td>Physical Therapists</td>
<td></td>
<td>$84,800.00</td>
</tr>
<tr>
<td>Physician Assistants</td>
<td></td>
<td>$140,800.00</td>
</tr>
<tr>
<td>Physicians &amp; Surgeons, All Other</td>
<td></td>
<td>$224,200.00</td>
</tr>
<tr>
<td>Radiologic Technologists</td>
<td></td>
<td>$51,600.00</td>
</tr>
<tr>
<td>Registered Nurse, R.N.</td>
<td></td>
<td>$65,600.00</td>
</tr>
<tr>
<td>Respiratory Therapists</td>
<td></td>
<td>$55,200.00</td>
</tr>
<tr>
<td>Speech-Language Pathologists</td>
<td></td>
<td>$74,160.00</td>
</tr>
<tr>
<td>Surgical Technologists</td>
<td></td>
<td>$41,900.00</td>
</tr>
<tr>
<td>Veterinarians</td>
<td></td>
<td>$86,900.00</td>
</tr>
<tr>
<td>Veterinary Technologists &amp; Technicians</td>
<td></td>
<td>$31,000.00</td>
</tr>
</tbody>
</table>

## Architecture Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Education</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architects, Excl Landscape &amp; Naval</td>
<td></td>
<td>$96,800.00</td>
</tr>
<tr>
<td>Architectural &amp; Civil Drafters</td>
<td></td>
<td>$63,960.00</td>
</tr>
<tr>
<td>Architectural &amp; Engineering Managers</td>
<td></td>
<td>$128,160.00</td>
</tr>
<tr>
<td>Landscape Architects</td>
<td></td>
<td>$71,400.00</td>
</tr>
</tbody>
</table>

## Social Science Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Education</th>
<th>Occupational Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical, Counseling, &amp; School Psychologists</td>
<td></td>
<td>$83,400.00</td>
</tr>
<tr>
<td>Economists</td>
<td></td>
<td>$165,160.00</td>
</tr>
<tr>
<td>Political Science Teachers, Postsec</td>
<td></td>
<td>$76,460.00</td>
</tr>
<tr>
<td>Psychology Teachers, Postdoc</td>
<td></td>
<td>$68,700.00</td>
</tr>
<tr>
<td>Social Science Research Assistants</td>
<td></td>
<td>$40,400.00</td>
</tr>
<tr>
<td>Social Scientists &amp; Related Workers, All Other</td>
<td></td>
<td>$68,000.00</td>
</tr>
<tr>
<td>Urban &amp; Regional Planners</td>
<td></td>
<td>$56,800.00</td>
</tr>
</tbody>
</table>

### Note
This workforce product was funded by a grant awarded by the U.S. Department of Labor’s Employment and Training Administration. The product was created by the Georgia Department of Labor and does not necessarily reflect the official position of the U.S. Department of Labor. This product is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permitted. All other uses require the prior authorization of the copyright owner.

For more information, contact Workforce Statistics & Economic Research (WSER) at (404) 252-3875 or at workforce.info@dol.state.ga.us

Navigating the Journey
from 8th grade to High School

Who should attend high school registration?
All eighth grade STUDENTS and their PARENTS should attend registration at their designated high school.
If the parent is unable to attend, another (adult) family member/designee should attend with the student.

How do I know where to go for high school registration?
A student’s high school placement is based on the address (and associated residency information) on file at the middle school or acceptance in a specific high school program.
Current DCSS high school programs are:
Alexander High School AP Capstone
Chapel Hill High School AP Magnet
Douglas County High School IB
Lithia Springs High School STEM
New Manchester High School FAME
College and Career Institute (CCI)
Located at West Georgia Technical College

What is the purpose of attending high school registration?
Both the parent and the student will have an opportunity to gain information and have questions answered regarding course recommendations from the middle school.

What do I need to do to prepare for high school registration?
Download the Career Planner from the Douglas County School System website (www.dcssga.org), save, and review the Career Planner prior to attending high school registration.

How do I prepare for a successful transition before school starts in August?
Attend the Freshman Expo on Thursday, March 21st (usually about 6-8 pm).
Check your high school website for updates during the month of July.
Check your mail for any information your high school may send during the summer.
Attend any Freshman Orientation activities before school starts.

How are courses chosen for students?
Academic and Elective courses can be taken at your high school, the CCI (College and Career Institute), college or technical school.
Academic Courses include English, Math, Science, and Social Studies. Course recommendations will be made by middle school teachers based on each student’s current class performance, last year’s standardized test scores and any high school rubric/minimum requirements. World Language is an academic elective. Students who have successfully completed World Language in DCSS in 7th and 8th grades have the opportunity to take French II or Spanish II in 9th grade.
Elective Courses are similar to middle school connection classes which include Physical Education and Fine Arts.
CCI (Douglas County College and Career Institute) Classes taken at the CCI, college or technical school require a separate application process. Parents and students must work with the high school counselor to facilitate the process for any courses taken. Applications are available from your middle school counselor.
23 TOTAL NUMBER OF CREDITS
REQUIRED FOR GRADUATION

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| **English**              | 4 credits| • 1 credit 9th Grade Literature  
                           |         | • 1 credit American Literature  
                           |         | • 2 additional Literature classes |
| **Math**                 | 4 credits| • 1 credit Algebra  
                           |         | • 1 credit Geometry  
                           |         | • 1 credit Algebra II  
                           |         | • 1 additional Math credit |
| **Science**              | 4 credits| • 1 credit Biology  
                           |         | • 1 credit Physical Science or Physics  
                           |         | • 1 credit Chemistry, Earth Systems, Environmental Science, or AP  
                           |         | • 1 Additional Science credit |
| **Social Studies**       | 4 credits| • 1 credit American Government  
                           |         | • 1 credit World History  
                           |         | • 1 credit United States History  
                           |         | • 1 credit Economics |
| **CTAE, World Language or Fine Arts** | 3 credits |                                                                         |
| **Health**               | .5 credit|                                                                         |
| **Personal Fitness**     | .5 credit|                                                                         |
| **Electives**            | 3 credits|                                                                         |

* Board of Regents requires 2 years of the same World Language for ALL 4 year colleges and universities.

PROMOTION REQUIREMENTS
• 9th to 10th Grade 5 credits
• 10th to 11th Grade 11 credits
• 11th to 12th Grade 18 credits

END-OF-COURSE 20% of grade
• 9th Grade Literature  
  • American Literature  
  • Physical Science  
  • Biology  
  • Algebra I  
  • Geometry  
  • US History  
  • Economics

HONORS/AP REQUIREMENTS
• Teacher Recommendation  
  • Signed Student/Parent Agreement  
  • Recommended Lexile of at least 1150

BOARD SCHOLAR
• 2 units from the same World Language  
  • 1 extra core class from Math, Science, Social Studies, English, or World Language  
  • 3.5 cumulative GPA; No F’s
SEALS FOR DIPLOMAS

- Fine Arts Seal: Complete 3 fine arts credits; 2 in the same area
- CTAE Cord: Complete CTAE pathway and pass End of Pathway Exam.
- World Language Seal: Complete 3 units in the same World Language
- Academic Seal: Complete 3 of any of the following: AP courses, college core Dual Enrollment courses, or technical college Dual Enrollment certification programs
- International Skills Diploma Seal: Coursework- 8 credits of courses with International focus; 7 can be from World Languages (minimum 3 credits World Languages or ESOL). Community Service (20 hours) involving a global/cross cultural focus. Extracurricular activities and experience with global themes or context (minimum 4). Capstone Presentation on Knowledge gained in courses and activities listed above (Possible Format: performance, presentation, video, journal reading).
- International Baccalaureate: Complete the two year IB program and graduate in good standing as an IB diploma candidate.
- STEM Seal: Complete the requirements of the STEM program and graduate in good standing as a STEM diploma candidate.
- Georgia’s New Seal of Biliteracy: The Seal of Biliteracy will be available for graduating high school students starting in 2016-17. On May 3, 2016, HB 879 was signed into law establishing Georgia’s Seal of Biliteracy. All Georgia public school students are eligible to attain the Seal based on evidence of achieving the required level of language proficiency in English plus one or more other languages during their high school years, be that language a native language, a heritage language, or a language learned in school or another setting.

The requirements are:
1. Completion of all English language arts requirements for graduation with an overall grade point average of 3.0 or above in those classes; and
2. Proficiency in one or more languages other than English, demonstrated by passing a foreign language advanced placement examination with a score of 4 or higher or an International Baccalaureate examination with a score of 5 or higher. For languages in which an Advanced Placement examination is not available, the Department of Education may provide a listing of equivalent summative examinations that local school systems may use in place of such an Advanced Placement examination.

PARTICIPATION IN GRADUATION CEREMONY

Complete all ‘GRADUATION COURSE REQUIREMENTS’ Please note that Georgia no longer requires passing an assessment in order to earn a diploma.

HOPE Academic rigor requirement has been added for more info, see HOPE Program section @ GAfutures.org

- College Prep
  - 3.0 GPA in ALL core classes (E, M, Sc, SS, FL)
  - Covers 90% previous year’s tuition

- Zell Miller Scholar Program
  - 3.7 GPA in ALL core classes (E, M, Sc, SS, FL)
  - 26 ACT or 1200 SAT (critical reading & math only)

NONTRADITIONAL PROGRAMS

- Success Centers
  - Performance Learning Center (PLC)
  - Virtual Academy (VA)
  - Project Eclipse (night school)

IMPORTANT WEB SITES

- College Board www.collegeboard.com
- ACT www.act.org
- Georgia Futures www.GAfutures.org

SCHOLARSHIPS AND GRANTS

While in high school, you should be deciding on what you will do after graduating. If continuing your education is your plan, part of that plan will be how you’re going to pay for it. There are several scholarship and grant options available for you. Ask your counselor what your best options are. This should include HOPE and DCEF (Douglas County Education Foundation). DCEF manages several local scholarships offered to Douglas County School System graduating seniors. These local scholarships are based on financial need, GPA, participation in extracurricular activities, school organizations, and community service. Over $126,000 has been awarded through DCEF since 1993. Visit DCEF’s website dcef.dcsga.org for additional details including scholarships offered, qualifications and deadlines.
CTAE FOURTH SCIENCES AND EMBEDDED COURSES

The following courses are typically considered Career, Technical, Agricultural Education (CTAE) Courses. The State Department of Education along with the University System of Georgia have determined that these courses may also be used to fulfill certain graduation and college admission requirements. If you have any questions, please talk with your student’s high school counselor.

<table>
<thead>
<tr>
<th>COURSE NAME</th>
<th>Counts as 4th Science for Graduation</th>
<th>Counts as 4th Science to a 4 yr College</th>
<th>Counts as 4th Math for Graduation</th>
<th>World Language Credit for Graduation Electives ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Science/Technology/Biotechnology</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essentials of Healthcare</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food for Life</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Science</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Science</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Horticulture and Plant Science</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Resources Management</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant Science and Biotechnology</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports Medicine</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Advanced Placement Computer Science</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Advanced Placement Computer Science Principles</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Computer Science Principles</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Embedded Computing</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Game Design: Animation and Simulation</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* International Baccalaureate Computer Science, Year One</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* International Baccalaureate Computer Science, Year Two</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Programming, Games, Apps and Society</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Web Development</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Two computer science sequenced courses will satisfy the two year foreign language requirement for graduation electives but may not be accepted for foreign language credit by the colleges and universities.

Certain CTAE courses have been identified by the State Department of Education as courses in which the standards of specific academic courses are also embedded. Since mastery of the standards in the CTAE course would also indicate mastery of the standards in the academic course, satisfactory completion of the CTAE courses will also earn credit for the student in the academic course. In short, the student earns two credits for one CTAE course. The following courses are included in this provision at this time:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Essentials of Healthcare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Credits on your transcript</td>
<td>Essentials of Healthcare and Anatomy for a total of two credits</td>
</tr>
</tbody>
</table>
CERTIFICATES, OPPORTUNITIES AND RESOURCES

CTAE INDUSTRY CERTIFICATION
When a program becomes industry certified, it receives a “Stamp of Excellence”, which represents the apex of program quality. Only those programs that have successfully undergone rigorous reviews by leaders from business and industry are recognized with this distinction.

This formal process strengthens all program components, including:

- Classrooms and labs which are equipped with state-of-the-art equipment and technology
- CTAE and academic performance standards that are aligned to national standards
- In-depth, project-based instruction in all curriculum areas
- Appropriate and varied Career Related Education (CRE) instruction, including school-based enterprises and entrepreneurial ventures
- Career and Technical Student Organizations (CTSOs) which offer co-curricular competitive events on the local, state and national level and provide leadership development skills for personal and professional growth; and
- Business, industry and community involvement in all aspects of the program

Industry certified programs not only offer outstanding opportunities to students who receive instruction through such programs but they also offer positive benefits for schools as well as employers.

NONTRADITIONAL OCCUPATIONS
Nontraditional careers are those occupations or fields of work for which individuals from one gender comprise less than 25% of the individuals employed. Students are encouraged to enroll in courses that fit their career goals regardless of the gender make-up in the classroom. Some examples of nontraditional careers are:

- Nursing for males
- Drafting for females
- Cosmetology for males
- Automotive for females

CAREER PLANNING RESOURCES

http://gacrn.gcic.edu/
Georgia Career Resource Network is a web site designed to assist students, parents, and school personnel with career-related programs, initiatives, and information.

www.GAfutures.org
GAfutures is an internet site to help students with high school, college and career planning, financial aid, and applying for college.

www.careeronestop.org
CareerOneStop, sponsored by the U.S. Department of Labor, provides opportunities for visitors to identify interests, explore careers, and find education options.

www.bls.gov/oco/
The Occupational Outlook Handbook is a nationally recognized source of career information. It describes what workers do on the job, working conditions, the training and education needed, earnings, and expected job prospects. The handbook covers a wide range of occupations.

www.Myplan.com
MyPlan.com is a career database which allows visitors to search, browse, or query through over 900 different careers, read career profiles, job descriptions, and educational requirements, and explore career outlooks.
**AGRICULTURE, FOOD AND NATURAL RESOURCES**

**FORESTRY/ WILDLIFE SYSTEM PATHWAY**

**INDUSTRY CREDENTIAL**

*Precision Natural Resource*

---

Those working in the forestry and natural resources field conserve and manage our forest and natural resources. Those working in this field regularly work with landowners, loggers, forestry technicians and aides, farmers, ranchers, government officials, special interest groups, and the general public. Anyone interested in this field should enjoy working outdoors. The federal, state, and local governments employ many forestry and natural resources workers.

**Pathway Concentration Courses**
- Basic Agriculture
- Forest Science
- Wildlife Management

**Recommended Courses**
- Forestry Technology
- Natural Resources
- Wildlife Technology
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**
An associate’s or bachelor’s degree in forestry is the minimum education recommended for a professional career in forestry. Forestry and natural resources technicians usually receive their training through a combination of community colleges and on-the-job training. Many states require licensure of professional foresters.

**Career and Technical Student Organizations**
- FFA

---

**Top Career Choices**
Jobs in Georgia will be available for qualified foresters at a slower than average rate; however, nationally the market will be seeking almost 2000 foresters between 2010-2020. Employment of conservation scientists is expected to increase 5 percent from 2010 to 2020, slower than the average for all occupations.

**Additional Career Choices**
- Aquacultural Managers
- Biological Science Postsecondary
- Conservation Scientists
- Fish and Game Officers
- Fish and Game Wardens
- Fisheries Manager
- Forest and Conservation Technicians
- Forest Manager
- Forest Worker
- Foresters
- Log Graders and Sclers
- Logger
- Logging Equipment Operators
- Natural Sciences Managers
- Park Naturalists
- Park Manager
- Range Managers
- Soil and Water Conservationists
- Teachers
- Wildlife Manager
- Zoologist and Wildlife Biologists
This course is designed as an introduction for the Horticulture/Plant Science Pathway Program of Study. The course introduces the major concepts of plant and horticulture science. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

**Pathway Concentration Courses**
- Basic Agricultural Science
- Introduction to Business and Technology
- Nursery and Landscape

**Recommended Courses**
- Biology
- Business Management
- Computer Applications
- Economics
- Environmental Science
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**

**Technical Colleges**
- Associates in Science

**Colleges/Universities**
- Bachelor of Science, Agricultural Business
- Bachelor of Science, Agricultural Education
- Bachelor of Science, Plant Science
- Master and PhD in all areas

**Career and Technical Student Organizations**
- FFA

**Top Career Choices**

**Interior-Scape Designers**
- $65,000-$70,000 annual salary
- B.S. Degree or higher

**Landscape Designers**
- $42,000-$75,000 annual salary
- No degree required. B.S. recommended

**Garden Center Owner/Operator**
- Salaries vary based on scope of business
- No degree required.

**Golf Course Manager/Athletic Field Manager**
- $64,000-$84,000 annual salary
- Bachelors Degree

**Additional Career Choices**
- Chemical, Equipment, Plants or Seed Sales
- Commercial Landscape Designers
- Cooperative Extension Agent
- Farmer
- Fruit and Orchard Production
- Garden Writers
- Greenhouse Horticulture Teacher
- Irrigation System Design and Installation
- Landscape and Nursery Marketing for Gardens or Green Industry
- Orchard and Vegetable Farm
- Organic Vegetable Production
- Park Design and Maintenance
- Production Marketing
- Public and Private Garden Curators
- Public Gardens
- Public Relations
- Research Scientist or Plant Breeding
- Sod Production and Sales
- Wetland Reclamation
- Zoo or City Government Horticulturist
People with careers in engineering, drawing, and design are people who solve problems and focus on making things work more efficiently and effectively. Engineers apply the theories and principles of science and mathematics to research and develop economical solutions to technical problems. Their work is the link between perceived social needs and commercial applications.

**Pathway Concentration Courses**
- Introduction to Drafting and Design
- Architectural Drawing and Design I
- Architectural Drawing and Design II

**Recommended Courses**
- Advanced Algebra/Trigonometry
- Calculus
- Computer Applications
- Entrepreneurship
- Introduction to Animation and 3D Design
- Physics
- Work-Based Learning
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**
- Technical Colleges
  - CAD Operator
  - Land Development
  - Project Management
  - Specialty Construction
- Colleges/Universities
  - Architecture
  - Civil Engineering Technology
  - Construction Engineering
  - Construction Management
  - Surveying and Mapping

**Career and Technical Student Organizations**
- SkillsUSA

---

**Top Career Choices**

**Architect**
- Moderate-Term On-the-Job Training needed
- $53,000 annual salary
- 110 annual average openings in Georgia

**Architectural and Civil Drafter**
- Post-Secondary Vocational Training needed
- $42,078 annual salary
- 80 annual average openings in Georgia

**Mechanical Drafter**
- Post-Secondary Vocational Training needed
- $42,141 annual salary
- 40 annual average openings in Georgia

**Surveying and Mapping Technician**
- Moderate-Term On-the-Job Training needed
- $43,540 annual salary
- 110 annual average openings in Georgia

**Surveyor**
- Bachelor Degree needed
- $59,000 annual salary
- 110 annual average openings in Georgia

**Additional Career Choices**
- Architectural Detailer
- Architectural Engineer
- Building Inspector
- Civil Engineer
- Designer
- Drafter
- Electrical Engineer
- Environmental Engineer
- Interior Designer
- Landscape Designer
- Structural Detailer
- Structural Engineer
- Technician
- Urban Planner
Audio and Video Technology and Film is a class that teaches all aspects of video production from pre-production, production, and post-production, including theory and practical application. Students will have the opportunity to participate in various types of broadcast/video production from events and commercials to mini-movies and documentaries.

Pathway Concentration Courses
- Audio and Video Technology and Film I
- Audio and Video Technology and Film II
- Audio and Video Technology and Film III

Recommended Courses
- Introduction to Business and Technology
- Business Communications
- Digital Design
- Intro to Animation and 3D Design
- Marketing Principles
- Photography
- Visual Arts
- Work-Based Learning
- World Language
- Yearbook/Journalism

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Technical Studies
- Telecommunications Arts
Colleges/Universities
- Broadcast Design
- Journalism and Broadcasting
- Mass Communications
- Mass Media/Arts
- Public Relations
- Video/Digital

Career and Technical Student Organizations
- DECA
- FBLA
- SkillsUSA

Top Career Choices
Audio and Video Equipment Technician
- Long-Term On-the-Job Training needed
- $40,498 annual salary
- 80 annual average openings in Georgia

Broadcast News Analyst
- Bachelor Degree needed
- $57,845 annual salary
- 20 annual average openings in Georgia

Broadcast Technician
- Associate Degree needed
- $35,443 annual salary
- 50 annual average openings in Georgia

Broadcast Technician
- Associate Degree needed
- $35,443 annual salary
- 50 annual average openings in Georgia

Film/Video Editor and Camera Operators
- Bachelor Degree needed
- $58,210 annual salary
- 13% Growth Annually in Georgia

Additional Career Choices
- Audio-Video Operator
- Broadcast Field Supervisor
- Broadcast Technician
- Camera Operator
- Chief Engineer
- Control Room Technician
- Director
- Non-Linear Video Editor
- Radio and TV Announcer
- Reporter
- Sound Technician
- Station Manager
- Transmission Engineer
GRAPHIC COMMUNICATIONS PATHWAY

Pathway Concentration Courses
- Introduction to Graphics and Design
- Graphic Design and Production
- Advanced Graphic Output Processes

Recommended Courses
- Marketing/Entrepreneurship
- Math (statistics/accounting)
- Public Speaking
- Visual Arts
- WBL
- World Language
- Yearbook/Journalism

Post-Secondary Degrees, Diplomas, and Certificates
Post-secondary  Technical College, Chattahoochee Tech or Art Institute of Atlanta
Bachelors  Georgia Southern, Georgia State, SCAD, Art Institute of Atlanta
Certificates  SCAD, eLearning, or Chattahoochee Tech

Career and Technical Student Organizations
- SkillsUSA
- FFA

Top Career Choices
Job Outlook: PSGF estimates 40k people will be needed annually through 2020 in the industry. Printing is the 2nd largest manufacturing industry in the US in terms of establishments.

- Advertising/Logo Design
- Creative/Art Director
- Educator
- Estimator
- Graphic Designer
- Marketing, Internet and Social Media Specialist
- Photographer
- Yearbook Rep

Additional Career Choices
- Branding
- Creative Consultant
- Entrepreneur
- Packaging Designer
- Photo Editor

Graphic Communications allows the students to perform a variety of tasks. Students will experience basic introduction to graphic communications. Activities include making note pads, business cards, brochures, postcards, cover designs and promotional materials, invitations, and more. Many students will be a part of the ever increasing need for work used by local schools and businesses.
BUSINESS AND TECHNOLOGY PATHWAY

Pathway Concentration Courses
- Introduction to Business and Technology
- Business and Technology
- Business Communications

Recommended Courses
- Any business and computer science course
- Marketing Principles
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Administrative Support Assistant
- Business Administrative Assistant
- Business Administrative Technology
- Certification in Microsoft Applications (MOAC)
- Data Entry Clerk
- General Office Assistant
- Microsoft Excel Application User
- Microsoft Office Application Professional
- Microsoft Word Application Professional

Colleges/Universities
- Business
- Business Administration
- International Business

Career and Technical Student Organizations
- DECA
- FBLA
- SkillsUSA

Pathway of social, ethical, and human issues related to business and technology. Courses will provide an introduction to computer technology, decision making, productivity, communications, and problem-solving skills. Areas of instruction include integration of word processing, spreadsheet, database, and presentation software as well as the use of emerging technologies.

Top Career Choices
Administrative Services Manager
- Bachelor Degree needed
- $68,016 annual salary
- 420 annual average openings in Georgia

Executive Secretary and Administrative Assistant
- Moderate On-the-Job Training needed
- $37,378 annual salary
- 1,620 annual average openings in Georgia

Legal Secretary
- Post-Secondary Vocational Award needed
- $36,338 annual salary
- 270 annual average openings in Georgia

Medical Transcriptionist
- Post-Secondary Vocational Award needed
- $30,514 annual salary
- 130 annual average openings in Georgia

Additional Career Choices
- Administrative Assistant
- Communications Equipment Operator
- Computer Operator
- Court Reporter
- Customer Service Assistant
- Data Entry Specialist
- Dispatcher
- Executive Assistant
- Human Resource Specialist
- Information Assistant
- Office Manager
- Payroll Specialist
- Receptionist
- Shipping and Receiving Personnel
- Word Processors
Entrepreneurs, innovators, and small businesses play a key role in Georgia’s economy. Business professionals may be managers, owners, accountants, economists, administrators, or analysts. These individuals must possess excellent communication skills and be able to establish working relationships with many different people.

Pathway Concentration Courses
- Introduction to Business and Technology
- Legal Environment of Business
- Entrepreneurship

Recommended Courses
- Any business and technology course
- Marketing Principles
- Work-Based Learning
- World Language
- Yearbook/Journalism

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Business Office Technology
- Entrepreneurship
- Management and Supervisory Development
- Office Administration
Colleges/Universities
- Business
- Business Administration

Career and Technical Student Organizations
- DECA
- FBLA
- SkillsUSA

Top Career Choices
Advertising and Promotion Manager
- Bachelor Degree needed
- $76,898 annual salary
- 60 annual average openings in Georgia

Chief Executive Officer
- Bachelor Degree plus work experience needed
- $155,168 annual salary
- 850 annual average openings in Georgia

Employment, Recruitment, and Placement Specialist
- Bachelor Degree needed
- $59,904 annual salary
- 100 annual average openings in Georgia

Training and Development Manager
- Bachelor Degree needed
- $79,498 annual salary
- 60 annual average openings in Georgia

Additional Career Choices
- Appraiser and Assessor of Real Estate
- Accountant and Auditor
- Administrator
- Bank Teller
- Business Educator
- Chief Executive Officer
- Claims Adjuster and Examiner
- Computer Support Specialist
- Computer Systems Analyst
- Cost Estimator
- Database Administrator
- Entrepreneur
- Financial Analyst and Manager
- Investigator
- Network Analyst
- Paralegal and Legal Assistant
- Personal Financial Advisor
- Sales Manager
- Tax Preparer
Pathway Concentration Courses
- Introduction to Business and Technology
- Legal Environment of Business
- Human Resources Principles

Recommended Courses
Prerequisites Introduction to Business and Legal Environment of Business
- Economics
- Entrepreneurship
- Human Resource Principles
- Intro to Business and Technology and Legal Environment of Business as Prerequisite
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Business Management degree at most colleges and universities
- Certificate program
- Associate degree
- Bachelor’s degree
- Master’s degree
- Doctoral degree

Career and Technical Student Organizations
- FBLA

Students will analyze the primary functions of human resources management which include recruitment, selection, training, development, compensation, and evaluation. The pathway is designed to equip students with operational knowledge of hiring, managing, and terminating employees. Throughout the third course, students will be introduced to the Human Resource Management role by following the life cycle of an employee from organizational entry to exit. Upon mastery of the standards in this pathway, students should be prepared to pass an End of Pathway assessment in this career area.

Top Career Choices
Training and Development Specialist
Bachelor Degree needed
$55,900 annual salary
400 annual average openings in Georgia

Human Resources Managers
Bachelor Degree needed
$101,300 annual salary
90 annual average openings in Georgia

Labor Relations Specialists
Some College, no degree required
$54,900 annual salary
400 annual average openings in Georgia

Additional Career Choices
Compensation and Benefits Manager
Employee Training Specialist
Human Resources Assistant
Human Resources Manager
Human Resources Specialist
Job Analysis Specialist
Training and Development Manager
EARLY CHILDHOOD CARE AND EDUCATION PATHWAY

Pathway Concentration Courses
- Early Childhood Education I
- Early Childhood Education II
- Early Childhood Education III
- Early Childhood Education Practicum (not offered at CHHS)

Recommended Courses
- Any education course
- Psychology
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
- Georgia Highlands College - Douglasville Campus
  www.highlands.edu/areas-of-study/teacher-education-program
- West Georgia Technical College
  www.westgatech.edu/academics/ECCE/index.htm
- State University of West Georgia
  www.westga.edu/academics/education/
- Mercer University - Douglasville Campus
  https://education.mercer.edu/academic-programs/

Career and Technical Student Organizations
- FCCLA

Top Career Choices
Elementary School Teacher
  Bachelor Degree needed
  $46,888 annual salary
  2,590 annual average openings in Georgia

Kindergarten Teacher
  Bachelor Degree needed
  $45,969 annual salary
  330 annual average openings in Georgia

Preschool Teacher
  Post-Secondary Vocational/Training needed
  $24,419 annual salary
  500 annual average openings in Georgia

Special Education Teacher Preschool, Kindergarten or Elementary
  Bachelor Degree needed
  $46,358 annual salary
  450 annual average openings in Georgia

Additional Career Choices
- After-School Program Supervisor
- Child Care Administrator
- Child Care Director and Owner
- Child Care Supervisor
- Child Life Specialist
- Education Administrator
- Educational and Teacher Aide
- Elementary School Teacher
- High School Early Childhood Ed. Teacher
- Recreation Attendant
- Special Education Teacher
- Preschool Teacher
- University Instructor and Professor

Educational services is the second largest industry which includes a variety of institutions that offer academic education or career and technical instruction. This includes elementary, middle and secondary schools, universities, colleges, professional schools, community or junior colleges and career and technical institutes. The overall demand for educational services will increase as growing emphasis on improving education along with retirements will create large numbers of job openings.
Educational services is the second largest industry which includes a variety of institutions that offer academic education or career and technical instruction. This includes child care through colleges and universities. The overall demand for educational services will increase as growing emphasis on improving education along with retirements will create large numbers of job openings.

Top Career Choices

Middle School Special Education Teacher
Bachelor Degree needed
$46,891 annual salary
230 annual average openings in Georgia

Post-Secondary Education Administrator
Bachelor Degree plus work experience needed
$81,328 annual salary
160 annual average openings in Georgia

Post-Secondary Vocational Education Teacher
Bachelor Degree plus work experience needed
$45,386 annual salary
370 annual average openings in Georgia

Secondary School Teacher
Bachelor Degree needed
$49,956 annual salary

Additional Career Choices

Adult Educator
After-School Program Supervisor
Associate Teacher
Coach
County Extension Agent
Education Evaluator
Educational and Teacher Aide
Elementary School Teacher
High School Teacher
Media Specialist
Middle School Teacher
Post-Secondary Vocational Education Recreation Attendant
School Administration
Social Services Aide
Special Education Teacher
Teacher

Pathway Concentration Courses
- Examining the Teaching Profession
- Contemporary Issues in Education
- Teaching as a Profession Internship

Recommended Courses
- Any education course
- Human Growth and Development
- Psychology
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
- Georgia Highlands College - Douglasville Campus
  www.highlands.edu/areas-of-study/teacher-education-program
- West Georgia Technical College
  www.westgatech.edu/academics/ECCE/index.htm
- State University of West Georgia
  www.westauga.edu/academics/education/
- Mercer University - Douglasville Campus
  https://education.mercer.edu/academic-programs/

Career and Technical Student Organizations
- FCCLA
- FEA
Pathway Concentration Courses
- Introduction to Business and Technology
- Accounting I
- Accounting II

Recommended Courses
- Any business and computer science course
- Marketing Principles
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Accounting
- Banking and Finance
- Business Administration Technology
- Business Logistics
- Business Studies

Colleges/Universities
- Accounting
- Actuarial Sciences
- Business Administration
- Economics
- Finance

Career and Technical Student Organizations
- DECA
- FBLA
- SkillsUSA

These courses are designed to provide students with knowledge that can be applied in secondary education, the workplace, and in their personal lives. During times of financial crisis, it is imperative that students learn the importance of sound financial decision-making.

Top Career Choices
Accountants and Auditors
- Bachelor Degree needed
- $54,330 annual salary
- 1,090 annual average openings in Georgia

Actuary
- Bachelor Degree needed
- $84,822 annual salary
- 30 annual average openings in Georgia

Financial Analyst
- Bachelor Degree needed
- $80,787 annual salary
- 210 annual average openings in Georgia

Securities/Commodities Sales
- Bachelor Degree needed
- $81,536 annual salary
- 100 annual average openings in Georgia

Additional Career Choices
- Bank Teller and Manager
- Cash Manager
- Chief Financial Officer
- Controller
- Corporate Finance Professional
- Credit Analyst
- Financial Counselor
- Financial Manager
- Insurance Agent and Broker
- Insurance Manager
- Investment Banker
- Loan Officer
- Personal Financial Advisor
- Personal Wealth Manager
- Real Estate Agents and Broker
- Stock Broker
Pathway Concentration Courses
- Introduction to Business and Technology
- Financial Literacy
- Principles of Accounting I

Recommended Courses
- Any business and computer science course
- Marketing Principles
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Accounting
- Medical Administrative Assistant
- Office Accounting Specialist

Colleges/Universities
- Accounting
- Business Education
- Business Management
- Economics
- Finance
- Marketing and Real Estate

Career and Technical Student Organizations
- DECA
- FBLA
- SkillsUSA

Top Career Choices
Accountants and Auditors
- Bachelor Degree needed
- $54,330 annual salary
- 1,090 annual average openings in Georgia

Bookkeeping/Accounting/Auditing Clerks
- Moderate-Term On-the-Job Training needed
- $29,619 annual salary
- 1,490 annual average openings in Georgia

Budget Analysts
- Bachelor Degree needed
- $58,698 annual salary
- 30 annual average openings in Georgia

Tax Examiner, Collector and Revenue Agent
- Bachelor Degree needed
- $43,909 annual salary
- 70 annual average openings in Georgia

Additional Career Choices
- Auditing Clerk
- Auditor
- Bookkeeper
- Budget Analyst
- Certified Public Accountant
- Corporate Accountant
- Entrepreneur
- FBI Agent
- Financial Advisor
- Financial Analyst
- Forensic Accountant
- Government Accountant
- Income Tax Professional
- Managerial Accountant
- Non-Profit Accountant
- Teacher

Strong growth in accounting jobs throughout the next decade is expected to occur due to the increased growth in the number of new businesses and stricter accounting and auditing regulations.
This Pathway uses project based instruction to introduce students to the basics of the banking system, bank operating procedures, negotiable instruments, and the deposit and credit functions of banks. Methods used for measuring the financial performance of banks are analyzed. Current issues and future trends in banking are examined. Students explore the major functions of bank employees by completing a flow-of-work simulation. Students formulate business and individual investment decisions by comparing and contrasting a variety of investment options.

Pathway Concentration Courses
- Introduction to Business and Technology
- Financial Literacy
- Banking, Investing and Insurance

Recommended Courses
- Accounting 1 and 2
- Business Foundation and Business Management
- Financial Management
- Marketing 1 and 2
- Personal Financial Literacy
- Personal and Business Law 1 and 2
- Web Design
- World Language

Top Career Choices
Auditor
- Bachelor Degree needed
- $73,910 annual salary

Insurance Sales Agent
- 1-2 years Post-Secondary training needed
- $62,790 annual salary

Claims Adjuster
- Post-Secondary training plus on-the-job training needed
- $63,220 annual salary

Accountant
- Bachelor Degree needed
- $73,910 annual salary

Additional Career Choices
- Business Teacher
- Financial Project Specialist
- Financial Planner
- Research
- Sales and Service

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges, Colleges/Universities
- Financial Planning
- Business Administration-Financial Analysis
- Accounting
- Consumer and Family Financial Services
- Disaster Relief Insurance Claim Adjuster

Career and Technical Student Organizations
- DECA
- FBLA
The program’s focus is reflected in its mission statement, “To Motivate Young People to be Better Citizens.” It prepares high school students for responsible leadership roles while making them aware of their rights, responsibilities, and privileges as American citizens. Army JROTC is a stimulus for promoting graduation from high school, and it provides instruction and rewarding opportunities that will benefit the student, community, and nation.

Pathway Concentration Courses
- JROTC/ARMY I
- JROTC/ARMY II
- JROTC/ARMY III
- JROTC/ARMY IV

Recommended Courses
- Any CTAE course
- Modern US Military History (DCHS only)
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
- ROTC (Scholarships available to qualified students)
- Academy Nominations
- Armed Forces (Advanced Placement Enlistment Opportunities) Army, Air Force, Marines, Navy, Coast Guard
- Active Reserve and National Guard options available

Career and Technical Student Organizations
- Academic Team
- Color Guard
- Drill Team
- Leadership Team
- Raiders
- Rifle Team

Top Career Choices
Students enrolled in JROTC programs may find high-demand, high-wage, and high-skilled occupations in the public sector at www.occsupplydemand.org or if they plan on a career in the military they will find “Military Occupations” listed on GAfutures.org under the Career Planning Tab.

Additional Career Choices
- Air Traffic Controller
- Aircraft Repairer
- Animal Care Specialist
- Broadcast Specialist
- Cavalry Scout
- Chaplain
- Computer and Detection Repairer
- Construction Equipment Repairer
- Criminal Investigation Special Agent
- Dental Specialist
- Equipment Repairer
- Finance Officer
- Health Care Specialist
- Human Resource Specialist
- Information Technology Specialist
- Intelligence Analyst
- Interpreter and Translator
- Medical Laboratory Specialist
- Military Police Officer
- Missile Fire Control Operator
- Missile Fire Control Maintainer
- Multi Media Illustrator
- Signal Intelligence Analyst
- Special Forces
- Technical Engineer
- Transportation Management Coordinator
- Visual Information Equipment Operator
**JROTC Marines Pathway**

*The program’s focus is reflected in its mission statement, “To Motivate Young People to be Better Citizens.” It prepares high school students for responsible leadership roles while making them aware of their rights, responsibilities, and privileges as American citizens. Marine JROTC is a stimulus for promoting graduation from high school, and it provides instruction and rewarding opportunities that will benefit the student, community, and nation.*

**Pathway Concentration Courses**
- JROTC/Leadership Ed I
- JROTC/Leadership Ed II
- JROTC/Leadership Ed III
- JROTC/Leadership Ed IV

**Recommended Courses**
- Any CTAE course
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**
- ROTC (Scholarships available to qualified students)
- Academy Nominations
- Armed Forces (Advanced Placement Enlistment Opportunities) Army, Air Force, Marines, Navy, Coast Guard
- Active Reserve and National Guard options available

**Career and Technical Student Organizations**
- Academic Team
- Color Guard
- Drill Team
- Raiders
- Rifle Team

**Top Career Choices**
Students enrolled in JROTC programs may find high-demand, high-wage, and high-skilled occupations in the public sector at www.occsupplydemand.org or if they plan on a career in the military they will find “Military Occupations” listed on GAfutures.org under the Career Planning Tab.

**Additional Career Choices**
- Administration
- Air Traffic Controller
- Aviation Ordinance
- Broadcast Specialist
- Computer
- Construction Equipment Repairer
- Criminal Investigation
- Engineering
- Equipment Repair
- Finance
- Flight Crew
- Human Resource
- Information Technology
- Intelligence
- Lawyer
- Military Police
- Missile Fire Control Operator
- Multi Media Illustrator
- Music
- Naval Aviation (Pilot)
- Photographer
- Supply Logistic
- Transportation Management
JROTC NAVY PATHWAY

Pathway Concentration Courses
- NJROTC I - Introduction to NJROTC/Cadet Field Manual
- NJROTC II - Maritime History/Nautical Science
- NJROTC III - Naval Knowledge/Naval Skills
- NJROTC IV - Naval Leadership/Global Awareness

Recommended Courses
- Any CTAE Course
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
- ROTC (Scholarships available to qualified students)
- Academy Nominations
- Armed Forces (Advanced Placement Enrollment Opportunities) Army, Air Force, Marines, Navy, Coast Guard
- Active Reserve and National Guard options available

Career and Technical Student Organizations
- Academic Team
- Athletic Team
- Drill Team
- Orienteering Team
- Rifle Team
- NJROTC Club
- Cyber Patriot Team

The NJROTC curriculum emphasizes citizenship and leadership development, as well as maritime heritage, the significance of sea power, and naval topics such as the fundamentals of naval operations, seamanship, navigation and meteorology. Classroom instruction is complimented throughout the year with community service projects, drill competition, field meets, flights, visits to naval activities, marksmanship training, and other military training.

Top Career Choices
Students enrolled in JROTC programs may find high-demand, high-wage, and high-skilled occupations in the public sector at www.occsupplydemand.org or if they plan on a career in the military they will find “Military Occupations” listed on GAfutures.org under the Career Planning Tab.

Additional Career Choices
- Art and Photography
- Aviation
- Business Management
- Computer
- Construction and Building
- Education
- Electronics
- Emergency, Fire and Rescue
- Energy and Power
- Engineering
- Finance and Accounting
- Human Resource
- Information Technology
- Intelligence and Communication
- Law Enforcement and Security
- Legal
- Mechanical and Industrial
- Medical and Dental
- Music
- News and Media
- Office and Administrative Support
- Purchasing and Supply
- Religion
- Science
- Special Operations
- Telecommunications
- Transportation
Employment is projected to increase 18% through 2026 - more than in any other industry. The healthcare industry offers jobs in a variety of establishments: hospitals, nursing and residential care facilities, physicians, dental, and other health practitioners offices, home health care services, outpatient care centers, ambulatory health care services and medical and diagnostic laboratories.

Pathway Concentration Courses
- Introduction to Healthcare Science
- Essentials of Healthcare (counts as 4th Science)
- Allied Health and Medicine

Recommended Courses
- Psychology
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Clinical Lab Technology
- Dental Assisting or Hygiene
- Medical Assisting
- Nurse Aid
- Pharmacy Technology
- Practical Nursing
- Radiologic Technology
- Registered Nursing
- Surgical Technology

Colleges/Universities
- Dentist
- Nurse Practitioner
- Pharmacist
- Physical Therapist
- Physician
- Registered Nurse
- Surgeon

Care and Technical Student Organizations
- HOSA

Top Career Choices
- Dental Hygienist
  - Associate Degree needed
  - $55,390 annual salary
  - 280 annual average openings in Georgia
- Medical and Clinical Laboratory Technician
  - Associate Degree needed
  - $30,846 annual salary
  - 250 annual average openings in Georgia
- Pediatrician
  - First Professional needed
  - $139,298 annual salary
  - 70 annual average openings in Georgia
- Physical Therapist
  - Master Degree needed
  - $65,042 annual salary
  - 120 annual average openings in Georgia
- Surgical Technologist
  - Post-Secondary Vocational Training needed
  - $32,157 annual salary
  - 140 annual average openings in Georgia

Additional Career Choices
- Athletic Trainer
- Audiolist
- Clinical Laboratory Technician
- Dental Hygienist
- EMT
- Medical Doctor
- Medical Laboratory Technician
- Occupational Therapist
- Orthopedic Technologist
- Paramedic
- Physical Therapist
- Radiologic Technologist
- Respiratory Therapist
- Surgical Technologist
- Veterinarian
This pathway is devoted to musculoskeletal disorders that alter the functional ability of the patient. Employment in this pathway is available for persons interested in pursuing careers in the Sports Medicine/Rehabilitative Services industry. Careers in this industry focus on improvement of ability to perform life tasks through the combined use of physical training (exercise, movement, and modification of activities), medications, adaptive equipment, orthotics (braces), and prosthesis devices. Careers in rehabilitation focus on helping people return to independence and self-reliance.

Pathway Concentration Courses
- Introduction to Healthcare Science
- Essentials of Healthcare
- Sports Medicine

Recommended Courses
- Human Anatomy/Physiology
- Internships
- Physics
- Psychology
- Work-based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates

Technical Colleges
- Dental Hygiene
- Orthopedic Technology
- Physical Therapist Assistant
- Radiologic Technology
- Surgical Technology

Colleges/Universities
- Doctor
- Dentist
- Nurse Practitioner
- Physical Therapist
- Registered Nurse
- Surgeon

Career and Technical Student Organizations
- HOSA

Top Career Choices

Athletic Trainer
- Bachelor Degree needed
- $35,917 annual salary
- 20 annual average openings in Georgia

Occupational Therapist Aide
- Short-Term On-the-Job Training needed
- $20,259 annual salary
- 10 annual average openings in Georgia

Orthotist and Prosthetist
- Bachelor Degree needed
- $35,464 annual salary
- 10 annual average openings in Georgia

Physical Therapist
- Doctorate Degree needed
- $65,042 annual salary
- 120 annual average openings in Georgia

Physical Therapist Assistant
- Associate Degree needed
- $40,830 annual salary
- 90 annual average openings in Georgia

Additional Career Choices

Chiropractor
- Doctor of Osteopathic Medicine
- Doctor of Podiatric Medicine

Massage Therapist

Occupational Therapist

Orthopedic Doctor

Physical Therapy Assistant

Physician’s Assistant

Radiologist

Radiologist Technician
**HEALTH SCIENCE**

**THERAPEUTIC SERVICES**

**EMERGENCY MEDICAL RESPONDER PATHWAY**

Employment of EMTs and paramedics is expected to grow much faster than average through 2014. Demand for emergency services will increase as a large segment of the population ages and becomes more likely to have medical emergencies. Those certified in EMT-Intermediate and EMT-Paramedic fields will have favorable job prospects. There will also be a demand for part-time, volunteer EMTs and paramedics in rural areas.

**Pathway Concentration Courses**
- Introduction to Healthcare Science
- Essentials of Healthcare Science
- Emergency Medical Responder

**Recommended Courses**
- Human Anatomy/Physiology
- Physics
- Psychology
- Work-Based Learning
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**

Technical Colleges
- Fire Science
- Firefighter EMT

Colleges/Universities
- See www.GAfutures.org for additional information.

**Top Career Choices**

**EMT/Paramedic**
- Post-Secondary Vocational Training needed
- $29,328 annual salary
- 290 annual average openings in Georgia

**Fire Fighter**
- Long-Term On-the-Job Training needed
- $33,030 annual salary
- 500 annual average openings in Georgia

**Licensed Practical Nurse**
- Post-Secondary Vocational Training needed
- $33,030 annual salary
- 960 annual average openings in Georgia

**Registered Nurse**
- Associate Degree needed
- $54,787 annual salary
- 3,340 annual average openings in Georgia

**Additional Career Choices**

Emergency Nurse
EMT and Paramedic
Firefighter
Paramedic Technologist

**Career and Technical Student Organizations**
- HOSA
HOSPITALITY AND TOURISM

SPORTS AND ENTERTAINMENT MARKETING PATHWAY

Pathway Concentration Courses
- Marketing Principles
- Introduction to Sports and Entertainment Marketing
- Advanced Sports and Entertainment Marketing

Recommended Courses
- Advanced Marketing
- Any business and computer science course
- Entrepreneurship
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Business Administration
- Executive Coaching
- Expert Sales Management
- Project Management
- Visual Merchandising
Colleges/Universities
- Accounting
- Advertising
- Bridal Consultant
- Business Economics
- Communication
- Graphic Arts
- Hospitality Administration
- Management
- Marketing
- Professional Sales
- Sport Management
- Travel/Tourism

Career and Technical Student Organizations
- DECA
- FBLA

Entertainment related to film and TV, music, gaming, digital media, and sports marketing are huge in Georgia. In addition to basic knowledge and skills in management and entrepreneurship, students will apply their knowledge and skills in order to master the industry’s terminology, market arenas and venues, obtain sponsorships, maintain solid media relations, coordinate and manage campaigns and events, etc. This pathway culminates with an opportunity for students to take the MBA Research "A*S*K Marketing Concepts" end of pathway assessment or the NOCTI "Marketing Education Manager Trainee" end of pathway assessment.

Top Career Choices
Marketing Manager
Bachelor Degree needed
$94,307 annual salary
310 annual average openings in Georgia

Marketing Research Analyst
Bachelor Degree needed
$61,464 annual salary
210 annual average openings in Georgia

Public Relations Specialist
Bachelor Degree needed
$48,672 annual salary
120 annual average openings in Georgia

Recreation Worker
Short-Term On-the-Job-Training needed
$21,570 annual salary
260 annual average openings in Georgia

Additional Career Choices
- Advertising Account Executive
- Agent
- Brand Manager
- Cashier
- Communications Specialist
- Customer Service Representative
- Demonstrator and Product Promoter
- Entertainment Marketer
- Entrepreneur
- Fashion Retailer
- Market Research Analyst
- Marketing Specialist
- Media Buyer
- Product Development Management
- Public Relations Specialist
- Purchaser
- Retail Buyer
- Retail Salesperson
- Sales
- Sales Representative
- Sign Maker
- Sports Marketer
- Website Designer
- Web Developer
- Webmaster
HOSPITALITY AND TOURISM

HOSPITALITY, RECREATION AND TOURISM PATHWAY

Pathway Concentration Courses
• Marketing Principles
• Hospitality, Recreation, and Tourism Essentials
• Hospitality, Recreation, and Tourism Management

Recommended Courses
• Advanced Marketing
• Any business or computer course
• Entrepreneurship
• Work-Based Learning
• World Language

Post-Secondary Degrees, Diplomas, and Certificates
• Adventure Tourism
• Communications
• Culinary
• Hospitality Management
• Hospitality Operations Management
• International Tourism
• Marketing Management
• Meetings & Event Planning
• Ski Guide
• Sports Marketing
• See www.GAfutures.org for additional information.

Career and Technical Student Organizations
• DECA
• FBLA
• FCCLA

Top Career Choices
Meeting, Convention, Events Planners
High School and on the job training
$47,350 per year
10% increase expected

Hotel and Lodging Managers
Bachelor Degree needed
$51,840 per year

Restaurant Manager
High School and on the job training
$50,820 per year

Travel Agent
High School and on the job training
$36,460 per year

Public Relations
Bachelor's degree
$58,020 per year

Additional Career Choices
• Brand Manager
• Catering Manager
• Communications Specialist
• Country Club Marketing and Management
• Cruise Director
• Customer Account Representative
• Economic Development Specialist
• Entertainment Marketer
• Entrepreneur
• Golf Course Marketing and Management
• Hotel Management
• International Tourism Management
• Parks and Recreation Management
• Purchaser
• Real Estate Agent
• Recreation and Amusements Marketer
• Restaurant Management
• Sales Representative
• Social Media Marketer
• Sports and Entertainment Marketer
• Tourism Director
• Travel Agent
• Travel Blogger
• Travel Planner

Georgia represents the 8th largest tourism economy in the country and the 2nd largest industry in Georgia. The Hospitality, Recreation and Tourism Industry consists of the following Lodging, Hotels and Resorts; Conventions, Meetings, Trade Shows and Events; Restaurants and Food Service; Recreation, Attractions, Sporting Events and Parks and Travel, including Air, Rail, Auto and Coach. Since the industry is primarily a service-oriented industry, workers will need good communication skills, and they will have to understand the importance of meeting the needs of individuals.
**Pathway Concentration Courses**
- Food, Nutrition, and Wellness
- Food for Life (counts as 4th Science)
- Food Science (counts as 4th Science)

**Recommended Courses**
- Any business and computer science course
- Any science elective
- Early Childhood Education I
- Work-Based Learning
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**
**Technical Colleges**
- Culinary Arts
- Food and Beverage Management
- Food Production Assistant, Worker, or Apprentice
- Hotel/Restaurant/Tourism Management

**Colleges/Universities**
- Dietetics/Dietician
- FACS Education
- Food, Nutrition and Wellness Studies
- Food Science and Technology
- See www.GAfuture.org for additional information.

**Top Career Choices**
- **Chef and Head Cook**
  - Work experience needed
  - $31,304 annual salary
  - 110 annual average openings in Georgia

- **Dietician/Nutritionist**
  - Bachelor Degree needed
  - $42,619 annual salary
  - 80 annual average openings in Georgia

- **Food Scientist and Technologist**
  - Bachelor Degree needed
  - $55,869 annual salary
  - 10 annual average openings in Georgia

- **Food Services Manager**
  - Work experience needed
  - $46,384 annual salary
  - 400 annual average openings in Georgia

- **Health Education**
  - Master Degree needed
  - $53,290 annual salary
  - 90 annual average openings in Georgia

**Additional Career Choices**
- Agricultural Engineer
- Biochemist
- Chemical Technician
- Consumer Representative
- Dietetic Technician
- Family and Consumer Science Teacher
- Flavorist
- Food Inspector
- Food Service Manager
- Geriatric Food Designer
- Health Educator
- Health Inspector
- Microbiologist
- Product Evaluation Scientist
- Research and Development Specialist
- Sensory Scientist
- Teacher Educator
- Technical Writer
- Toxicologist
This pathway is formulated for students who desire to become licensed cosmetologists. All participating students are required by the Georgia State Board of Cosmetology to obtain a total of 1500 unit hours to be eligible for both the written and practical state test. Students benefit from the program because it allows the student the opportunity to obtain at least half of the required state board hours.

**Pathway Concentration Courses**
- Introduction to Personal Care Services
- Cosmetology Services II
- Cosmetology Services III

**Recommended Courses**
- Advanced Cosmetology Services
- Chemistry
- Cosmetology Services - Core IV
- Internship I, II, III, IV, V
- Licensure and Employment Opportunities
- Science and Art of Makeup
- Science of Advanced Skincare
- Science of Cosmetology
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**

**Technical Colleges**
- Barber License
- Cosmetology Instructor License
- Cosmetology License
- Esthetician License
- Hair Designer License
- Master Cosmetology License
- Nail Technician License

**Colleges/Universities**
- Cosmetology

**Career and Technical Student Organizations**
- SkillsUSA

**Top Career Choices**
Salary ranges from $15,530 to $42,460 per year. In order to obtain a license in cosmetology, nail technology, or skin care in the state of Georgia, students must complete the requirements listed below. Please contact the Georgia State Board of Cosmetology for more information.

**Requirements:**
- COSMETOLOGIST: 1500 Hours, Apprenticeship 3000 Hours
- HAIR DESIGN: 1325 Hours, Apprenticeship 2650
- ESTHETICIAN: 1000 Hours, Apprenticeship 2000 Hours
- NAIL TECHNICIAN: 525 Hours, Apprenticeship 1050 Hours

**Additional Career Choices**
- Barber Stylist
- Chemical Texture Specialist
- Color Specialist Chemist
- Cosmetologist
- Cutting Specialist
- Editorial Specialist
- Esthetician
- Hair Color Specialist
- Hairstylist
- Make-up Artist
- Master Cosmetologist
- Nail Technicians
- Permanent Wave Technician
- Platform Artist
- Receptionist
- Salon Owner
- Shampoo Tech
- Wig Stylist
This pathway instructs students on the basics of designing a web page and leads to advanced web design and 3D animation. Web design can be found in every area of business and industry, as well as in individuals' personal life. Students will have the opportunity to learn skills that will help them create web pages, gaming and other digital media features.

**Pathway Concentration Courses**
- Introduction to Digital Technology
- Digital Design
- Web Design

**Recommended Courses**
- Any business and computer science course
- Broadcast/Video Production
- Introduction to Graphics and Design
- Marketing Principles
- World Language
- Yearbook/Journalism

**Post-Secondary Degrees, Diplomas, and Certificates**

**Technical Colleges**
- Computer Animation and Multimedia
- Computer Simulation
- Digital Media
- Internet Specialist - Web Site Design
- Printing and Graphics Technology
- Web Site Designer

**Colleges/Universities**
- Animation
- Computational Media
- Computer Science
- Graphic Designer

**Career and Technical Student Organizations**
- DECA
- FBLA
- SkillsUSA

**Top Career Choices**

**Computer Specialist**
- Associate Degree needed
- $55,640 annual salary
- 80 annual average openings in Georgia

**Graphic Designer**
- Bachelor Degree needed
- $44,034 annual salary
- 160 annual average openings in Georgia

**Multi-Media Artist and Animator**
- Bachelor Degree needed
- $44,554 annual salary
- 40 annual average openings in Georgia

**Additional Career Choices**
- Computer Service Technician
- Database Developer
- Graphic Designer
- Help Desk Support
- Illustrator
- Internet Specialist
- Multimedia Developer
- Network Analyst
- Network Engineer
- Programmer
- Project Manager
- Software Trainer
- Video Game Developer
- Web Developer
- Webmaster
- Website Designer
INTERNET OF THINGS PATHWAY

This pathway examines the impact of computing on the world around us. Engage your creativity, demonstrate and build your problem solving all while connecting the relevance of computer science to society! Examine how personal devices, smart cars and the Internet interact. Courses are based on a discovery and hands on learning. Don’t just read about it – create and do it!

Pathway Concentration Courses

- Introduction to Digital Technology
- Computer Science or Principles or AP Computer Science Principles (counts as 4th Science or 4th Math)
- Embedded Computing (counts as 4th Science or 4th Math)

Recommended Courses

- Any Computer Science course
- Art
- Math / Science classes
- Robotics
- Sociology / Psychology
- STEAM or Engineering
- World Language

Post-Secondary Degrees, Diplomas, and Certificates

Technical Colleges
- Computer Science
- Internet Specialist
- Programming
- Computer Simulation

Colleges/Universities
- Computer Science
- Computational Media
- Computer Information Systems

Career and Technical Student Organizations
- DECA
- FBLA
- SkillsUSA

Top Career Choices

Web Developer
Associate Degree needed
$82,000 Median Salary
27% growth from 2014 – 2017

Information Architect
Bachelor’s Degree needed
$100,240 Median Salary
9% growth from 2014 – 2017

Software Developer
Bachelor’s degree needed
$100,690 Median Salary
17% growth from 2014 - 2024

Additional Career Choices

- App Developer
- Business Intelligence Analysts
- Computer Programmer
- Computer Systems Analysts
- Cyber Security Consultant
- Data Miner
- Database Administrator
- Game Developer
- Information System
- IT Consultant
- Multimedia Programmer
- Researcher
- Software Engineer
- Software QA Tester
- System Analyst
- Technical Writer
**The Programming pathway gives many opportunities to strengthen problem solving skills and provides needed skills in all disciplines.**

**Pathway Concentration Courses**
- Introduction to Digital Technology
- Computer Science Principles
- Programming, Apps, Games and Society (AHS only)

**Recommended Courses**
- Any business and computer science course
- Broadcast/Video Production
- Introduction to Engineering Drawing and Design
- Introduction to Graphics and Design
- Work-Based Learning
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**

**Technical Colleges**
- Business Information Systems
- Computer Forensics
- Computer Information Systems
- Computer Programming
- Computer Software Engineering
- Computer Science
- Information Science
- Information Technology
- Mathematics

**Colleges/Universities**
- See www.GAfutures.org for additional information.

**Top Career Choices**

**Computer Programmers**  
Bachelor Degree needed  
$73,674 annual salary  
330 annual average openings in Georgia

**Computer Software Engineers**  
Bachelor Degree needed  
$77,022 annual salary  
730 annual average openings in Georgia

**Computer System Analysts**  
Bachelor Degree needed  
$74,443 annual salary  
890 annual average openings in Georgia

**Computing and Information Systems Managers**  
Bachelor Degree plus experience needed  
$101,400 annual salary  
530 annual average openings in Georgia

**Additional Career Choices**
- Actuaries
- Computer Scientist
- Computer Software Engineer
- Computer Systems Analyst
- Database Administrator
- Mathematician

**Career and Technical Student Organizations**
- FBLA
- SkillsUSA
INFORMATION TECHNOLOGY

COMPUTER SCIENCE PATHWAY

Careers in Computer Science lead individuals to create, modify, and test codes - all while inventing and designing new approaches to computing technology and finding innovative uses for existing technology. Career area focus requires solving complex problems in computing for business, medicine, science, and other fields.

Pathway Concentration Courses
- Introduction to Digital Technology
- Computer Science Principles or AP Computer Science Principles (counts as 4th Science or 4th Math)
- AP Computer Science (counts as 4th Science or 4th Math)

Recommended Courses
- Any Advanced Math Course
- Any Business and Computer Science Course
- Entrepreneurship
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Computer Engineering Technology
- Electromechanical Engineering Technology
- Telecommunications Engineering Technology
- Industrial Engineering Technology
- Electrical and Computer Engineering Technology
- Computer Engineering Technology
- Computer System Design Specialist
- Network Design Technology Specialist
- Network Specialist

Colleges/Universities
- Computer Systems Engineering
- BA with a Major in Applied Computer Science
- BS with a Major in Computer Science
- BS with a Major in Computer Game Design and Development

Top Career Choices
Employment of computer programmers is expected to increase 12 percent from 2010 to 2020, about as fast as the average for all occupations.

Computer Programmers
Bachelor Degree needed
$75,400 annual salary
230 annual average openings in Georgia

Computer System Analysts
Bachelor Degree needed
$73,800 annual salary
810 annual average openings in Georgia

Software Developers, Application
Bachelor Degree needed
$86,300 annual salary
340 annual average openings in Georgia

Additional Career Choices
- Computer Hardware Engineers
- Computer Info Systems Managers
- Computer Network Architects
- Computer Programmers
- Computer System Analysts
- Database Administrators
- Information Security Analysts
- Network Computer Systems Administrators
- Software Engineers
- Video Game Designers
The increased use of computers has created a high demand for specialists to provide advice to users, as well as for day-to-day administration, maintenance, and support of computer systems and networks. This pathway is designed to introduce students to the field of cybersecurity while examining best practices related to the management of security, ethics, trust, internal/external threats, cryptography, and wireless technologies. Computer-related jobs are generally high paying, and those working in the profession require a foundational knowledge of problem solving and logical thinking.

Pathway Concentration Courses
- Introduction to Digital Technology
- Introduction to Cybersecurity
- Advanced Cybersecurity

Recommended Courses
- Any Advanced Math Course
- Any Business and Computer Science Course
- Any Engineering Course
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Cybersecurity
- Cyber Crime Specialist
- Computer Support Specialist

Colleges/Universities
- Computer Support Specialist
- Computer Science
- Management Information Systems

Career and Technical Student Organizations
- FBLA
- TSA

Top Career Choices
Computer and Information Systems Managers
Bachelor Degree needed
$134,679 annual salary
333 annual average openings in Georgia

Computer Support Specialist
Some College/No Degree Required
$44,700 annual salary
830 annual average openings in Georgia

Network and Computer System Administrators
Bachelor Degree needed
$83,734 annual salary
246 annual average openings in Georgia

Additional Career Choices
Administrative Support Workers
Network Computer and Info System Managers
Computer System Administrators
Computer Network Support Specialist
Computer Operators
Computer User Support Specialist
First-Line Supervisors of Office
This pathway is designed to provide students with career-focused educational opportunities in various public safety fields. Each course has elements which cover tactics, methods, and skills utilized in law enforcement and other public safety organizations. Students have opportunity to be involved with the Douglas County Sheriff’s Office Explorer Program.

Pathway Concentration Courses
- Introduction to Law, Public Safety, Corrections, and Security
- Criminal Justice Essentials
- Criminal Investigations

Recommended Courses
- Accounting
- Anatomy
- Any health care science course
- Forensics Science Elective
- Introduction to Business and Technology
- Legal Environment of Business
- Wildlife Management
- Work-Based Learning
- World Language

Program Completers Currently in Law Enforcement at
- Douglas County Sheriff’s Office
- Douglasville Police Department
- Georgia State Patrol
- Cherokee County Sheriff’s Office
- MARTA Police Department

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Criminal Justice Technology
- Law Enforcement Technician

Colleges/Universities
- Criminal Justice
- Criminology
- Pre-law

Career and Technical Student Organizations
- SkillsUSA

Top Career Choices
Intership Opportunities
- Douglas County District Attorney’s Office

Corrections Officer
- Moderate-Term On-the-Job Training needed
- $27,498 annual salary
- 470 annual average openings in Georgia

Forensic Science Technician
- Associate Degree needed
- $35,818 annual salary
- 20 annual average openings in Georgia

Lawyer
- First Professional Degree needed
- $115,960 annual salary
- 460 annual average openings in Georgia

Police and Sheriff’s Patrol Officer
- Long-Term On-the-Job Training needed
- $35,402 annual salary
- 910 annual average openings in Georgia

Additional Career Choices
- Attorney
- Bailiff
- Border Patrol
- Correctional Officer/Jailer
- Crime Scene Investigator
- Detective
- Dispatcher or Communications Officer
- Forest Ranger or Game Warden
- Judge
- Paralegal
- Parole Officer
- Police Officer
- Private Detective and Investigator
- Private Security Guard
- Probation Officer
- Sheriff's Deputy
- Special Agent
- State Trooper
Pathway Concentration Courses
- Marketing Principles
- Marketing and Entrepreneurship
- Marketing Management

Recommended Courses
- Any business and computer science course
- Sports and Entertainment Marketing
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Business Administration
- Entrepreneurship
- Expert Sales Management
- Fashion Design and Marketing
- Retail and Merchandising

Colleges/Universities
- Accounting
- Advertising
- Business Economics
- Communication
- Graphic Arts
- Hospitality Administration
- International Business
- Management
- Marketing
- Professional Sales
- Real Estate
- Risk Management and Insurance

Career and Technical Student Organizations
- DECA
- FBLA

Top Career Choices
Chief Executive Officer
Base annual salary $80,253-$253,036
National average annual salary $187,000

Global Marketing Manager
Base annual salary $59,963-$144,916
National average annual salary $103,000

Content Marketing Director
Base annual salary $54,506-$145,269
National average annual salary $92,000

Creative Director
Base annual salary $44,426-$152,383
National average annual salary $85,000

Additional Career Choices
- Advertising Director
- Digital Marketing
- E-Commerce Marketing Director
- Finance Manager
- International Marketing Executive
- Public Relations Manager
- Sales Director
- Social Media Director
- Sports and Entertainment Agent
- Real-Estate Agent
- Retail Salesperson
- Telemarketer

Students develop knowledge and skills in the foundational areas of marketing (economics, human relations and business basics) and the functional areas of marketing (product and service planning, marketing-information management, purchasing and pricing, selling and promotion, risk management, financing and distribution/logistics), as well as international marketing, management and entrepreneurship.
The major focus of the IED course is to expose students to design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. IED gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities, and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education.

Pathway Concentration Courses
- Foundations of Engineering and Technology
- Engineering Concepts
- Engineering Applications

Recommended Courses
- Algebra/Geometry
- Chemistry
- Environmental Science
- Physics
- Trigonometry
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
High School Diplomas
- Automotive
- CAD
- CNC
- Diesel
- Electrical
- Electronics
- Engineering Pathway Seal
- HUAC
- Industrial
- Networking
- Manufacturing
- Programming
- Tech Certificate
- Welding

Colleges Degrees
- Aerospace
- Biomedical
- Civil
- Computer
- Design
- Electrical
- Environmental

Career and Technical Student Organizations
- FIRST Robotics
- Georgia Gravity Games
- SkillsUSA

Top Career Choices
- Biomedical $62,010 yearly
- Chemical $67,808 yearly
- Civil $58,763 yearly
- Computer $72,030 yearly
- Electrical $67,550 yearly
- Environmental $59,133 yearly
- Geological/Mining $60,327 yearly
- Hardware/Software $70,477 yearly
- Materials $68,358 yearly
- Mechanical $64,695 yearly

Additional Career Choices
- Aerospace
- Applications
- CAD Drafting
- Civil Engineer
- Cost Engineer
- Designer
- Industrial Engineer
- Machinist
- Manufacturing
- Network
- Nuclear Engineer
- Project Manager
- Quality Control Inspector
- Systems Engineer
**ENGINEERING DRAFTING AND DESIGN PATHWAY**

*Students are encouraged to have a solid background in mathematics, science, and technology. This pathway is enjoyed by students who have a mechanical nature. Employment opportunities continue to increase in engineering-related industries. There is an increasing need to explore new materials, manufacturing processes, and ways to protect the environment.*

**Pathway Concentration Courses**
- Introduction to Drafting and Design
- Survey of Engineering Graphics
- 3D Modeling and Analysis

**Recommended Courses**
- Advanced Algebra/Trigonometry (or math curriculum equivalent)
- Calculus (or math curriculum equivalent)
- Entrepreneurship
- Introduction to Animation and 3D Design
- Introduction to Business and Technology
- Physics
- Work-Based Learning
- World Language

**Post-Secondary Degrees, Diplomas, and Certificates**

**Technical Colleges**
- CAD Operator

**Colleges/Universities**
- Aerospace Engineer
- Apparel and Textile Engineer
- Designer
- Electrical Engineer
- Industrial Engineer
- Instrumentation Engineer
- Mechanical Engineer
- Mechanical Engineer Technician
- Nuclear Engineer
- Power Engineer
- Telecommunication Engineer

**Top Career Choices**

**Architectural and Civil Drafters**
- Post-Secondary Vocational Training needed
- $42,078 annual salary
- 80 annual average openings in Georgia

**Commercial and Industrial Designers**
- Bachelor Degree needed
- $52,312 annual salary
- 30 annual average openings in Georgia

**Graphic Designer**
- Bachelor Degree needed
- $44,034 annual salary
- 160 annual average openings in Georgia

**Industrial Engineer**
- Bachelor Degree needed
- $103,000 annual salary

**Additional Career Choices**
- Civil Engineer
- Designer
- Drafter
- Electrical Engineer
- Environmental Engineer
- HVAC Designer
- Industrial Engineer
- Instrumentation Engineer
- Manufacturing Manager
- Materials Engineer
- Mechanical Engineer
- Nuclear Engineer
- Power Engineer
- Production Manager
- Technician

**Career and Technical Student Organizations**
- SkillsUSA
Pathway Concentration Courses
- Basic Maintenance and Light Repair FY15
- Maintenance and Light Repair II
- Maintenance and Light Repair III

Recommended Courses
- Advanced Algebra/Trigonometry
- Engine Performance Concepts
- Entrepreneurship
- Heating Ventilation and Air Conditioning Concepts
- Introduction to Business and Technology
- Mathematics of Finance
- Physics
- Preventative Maintenance Inspection
- Work-Based Learning
- World Language

Post-Secondary Degrees, Diplomas, and Certificates
Technical Colleges
- Automotive Technology/Technician
- Welding
- ASE

Colleges/Universities
- Education
- Business Management
- Automotive Engineering

Career and Technical Student Organizations
- SkillsUSA

Top Career Choices
Automotive Service Technician and Mechanics
Post-Secondary Vocational Award needed
$34,549 annual salary
1,000 annual average openings in Georgia

Bus and Truck Mechanic/Diesel Engine Specialist
Post-Secondary Vocational Award needed
$36,504 annual salary
380 annual average openings in Georgia

Electrical and Electronics Repairers, Commercial and Industrial Equipment
Post-Secondary Vocational Award needed
$47,611 annual salary
130 annual average openings in Georgia

Vocational Teacher, Post-Secondary School
Bachelor Degree or higher plus work experience
$44,637 annual salary
250 annual average openings in Georgia

Additional Career Choices
Auto Manufacturer Sales
Auto Manufacturer Service
Auto or Body Technician
Automotive Engineer
Automotive Mechanist
Automotive Parts Sales
Automotive Sales
Body Shop Manager
Dealership or Shop Owner
DOT Salvage Inspector
Insurance Adjuster
Parts Professional
Quality Control Technician
Retail
Service Advisor
Service Director Dealership
Specialized Technician Teacher
Technician (ASE Certified)
Warranty Clerk
Waste Management (EPA)
All students who wish to participate in Dual Enrollment must have an advisement conference with the school counselor EACH SEMESTER (fall, spring, and/or summer). The law requires the advisement session is to take place with the high school counselor, parent and student. It is the responsibility of the school counselor to abide by DCSS board policy and to discuss applicable information from the following topics with the student and parent/guardian in a Dual Enrollment conference.
DUAL ENROLLMENT

IMPORTANT CONSIDERATIONS

- **Required SAT/ACT or Accuplacer testing has been completed or is scheduled.**
- **Academic Rigor** Understanding the Dual Enrollment courses will be rigorous courses.
- **Attendance** Recognizing the importance of attending all classes.
- **Communication Skills** Knowing when to ask for the professor’s help and learning early each semester how to contact each professor. Understanding that communication from the professor will be with the student and **NOT** the parent(s)/guardian(s).
- **Satisfactory Academic Progress** Understanding what the postsecondary institution’s SAP is set by the institution.
- **Syllabus** Being familiar with each college professor’s syllabus which will be the road map for the course and include all important deadlines.
- **Transportation** Provided only for CCI Dual Enrollment courses.

ELIGIBILITY

- **9th, 10th, 11th, or 12th Grade Student** Understanding that students in grades 9-12 eligible.
- **Admissions Requirements** Understanding by parent and student regarding admissions requirements at selected Dual Enrollment college, university and/or technical college.
  - Understanding that there are SAT/ACT or Accuplacer and grade requirements (grade point average) at each college/university and/or technical college unique to the postsecondary school.
  - Knowing the institution’s minimum age requirements.
  - Making sure that the student understands the admission deadlines for the school of his/her choice. Students must converse with admission/college representative for up-to-date requirements as well as use the institution’s admissions website.
  - Making certain that student understands that Board of Regents schools may not accept Accuplacer testing requirements and entrance scores for admission into any of the college programs.

OTHER

- **Dropping Dual Enrollment Courses - VERY IMPORTANT:** At any time during the semester that a Dual Enrollment course is dropped the student must immediately (within 24 hours) notify the school counselor at the high school in writing as well as by phone. Failure to notify the counselor will result in a failing grade and zero credit being recorded on the high school transcript. The high school counselor needs to know if the student drops below 12 hours as a Dual Enrollment full-time student and thus, the status is changed from full-time to part-time status.
- **Summer** Dual Enrollment courses were available in Summer 2016.
- **Taking Courses at Two Postsecondary schools or Transferring from one Post-secondary Institution to Another** Students may take courses during the same semester at different postsecondary institutions or may transfer between semesters from one institution to the other.
- **Transportation and Additional Expenses** Making certain that student and parent know that they must provide their own transportation for classes taken on the college campus. Items OTHER THAN tuition, mandatory fees, and books are the responsibility of the student and parent/guardian under the Dual Enrollment Program.
The Douglas County College and Career Institute (CCI) is a collaboration between the Douglas County School System, West Georgia Technical College (WGTC), and the Douglas County Chamber of Commerce to provide opportunities for students to receive both high school and college credit through Dual Enrollment. Students also gain technical skills that increase job prospects whether headed directly into the job market or on to college. The CCI building is located on the West Georgia Technical College campus in Douglas County.

HIGH SCHOOL AND COLLEGE PROGRAM OPPORTUNITIES

- Automotive
- Computer Information Systems
- Cosmetology
- Criminal Justice
- Culinary Arts
- Dental Assisting
- Early Childhood Education
- Game Development
- Graphic Arts**
- Patient Care Assisting
- Pharmacy
- Audio/Video Technology and Film**
- Welding

** High School Credit only. No college entrance requirements. Open to grades 9-12.
HIGH SCHOOL COURSES 9-12

AUDIO/VIDEO TECHNOLOGY AND FILM
Topics covered include history of mass media, terminology, safety, basic equipment, script writing, production teams, production and programming, set production, lighting, recording and editing, studio production, and professional ethics. SkillsUSA an organization that provides leadership training and/or for reinforces specific career and technical skills.

GRAPHIC ARTS
The goal of this course is to provide all students with an introduction direction to the principles of graphic communications and design. Graphic Communications includes the family of market segments embracing the technologies of printing, publishing, packaging, electronic imaging, and their allied industries. These industries are often referred to as the graphic arts, print, or imaging industries.

WHAT IS DUAL ENROLLMENT?
Dual Enrollment programs are operated in a partnership between WGTC and secondary school systems. Students must first meet the requirements of their local school system to establish eligibility for participation in any program with WGTC. If eligible, students must meet college entrance requirements and, upon successful completion of required coursework, will receive both high school and college credit.

WHAT IS REQUIRED FOR ADMISSION?
- Current student enrolled in an eligible public or private high school (or home school program) in Georgia.
- Official SAT, ACT, ASSET or COMPASS or Accuplacer placement test scores. (Requirements can be found on next page.)
- Dual Enrollment admissions application.
- Dual Enrollment Student Participation Agreement (must be signed by high school counselor and parent/guardian).

ENROLLMENT STEPS

Step 1 Submit official SAT/ACT, ASSET, or COMPASS test scores or take the Accuplacer placement exam.

Step 2 Complete the admissions application. http://www.westgatech.edu/mowr/index.htm

Step 3 Meet with your high school counselor and parent/guardian to complete the Dual Enrollment Student Participation Agreement. Scan and email the Agreement to DualEnrollment@westgatech.edu or drop it off at the WGTC Campus.

Step 4 Login in or set up a GAfutures account at GAFutures.org, and complete the Dual Enrollment (financial aid) application online.

Step 5 Receive acceptance letter/email.

For additional information, please contact us at MOWR@westgatech.edu.

STEPS TO COMPLETE FUNDING APPLICATION
This MUST be completed EVERY semester of attendance while still in high school.

Step 1 Sign in to GAfutures.org or create account.

Step 2 Click on “Dual Enrollment” under What’s New box on right hand side of page.

Step 3 Scroll down page and click on “Dual Enrollment online application” under Application Procedures.

Step 4 Click “Add New Application”.

Step 5 Fill in ALL Blanks.
- Name, birthdate, address, phone, email
- Select High school you attend and click > to add High school
- Select West Georgia Technical College and click > to add college

Step 6 Click in check box to certify that all of the information is correct.

Step 7 Click Submit at bottom of page.

For additional information, please contact us at MOWR@westgatech.edu.
## DUAL ENROLLMENT AND CERTIFICATES OFFERED

* = Diploma     AAS = Associates Applied     AS = Associate of Science

<table>
<thead>
<tr>
<th>Program</th>
<th>Certificates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AUTOMOTIVE</strong></td>
<td>2 consecutive semesters earn Automotive Engine Repair (AE61) and Automotive</td>
</tr>
<tr>
<td></td>
<td>Electrical/Electronic Systems (AE41) Certificates</td>
</tr>
<tr>
<td><strong>COMPUTER INFORMATION SYSTEMS</strong></td>
<td>2 consecutive semesters earn PC Repair and Network Technician (PR21) and Help</td>
</tr>
<tr>
<td></td>
<td>Desk Specialist (HD41) Certificates</td>
</tr>
<tr>
<td><strong>COSMETOLOGY</strong></td>
<td>1 semester earns Shampoo Technician (ST11) Certificate</td>
</tr>
<tr>
<td></td>
<td>2 semesters earn Shampoo Technician (ST11) and Advanced Cosmetology Certificates</td>
</tr>
<tr>
<td><strong>CRIMINAL JUSTICE</strong></td>
<td>2 semesters earn Criminal Justice Fundamentals (CJ71) Certificate</td>
</tr>
<tr>
<td><strong>CULINARY ARTS</strong></td>
<td>2 consecutive semesters earn Food Production Worker I (FPW) and Prep Cook</td>
</tr>
<tr>
<td></td>
<td>(PCS1) Certificates</td>
</tr>
<tr>
<td><strong>DENTAL ASSISTING</strong></td>
<td>Age requirements apply. Student will receive Basic certificate and continue on</td>
</tr>
<tr>
<td></td>
<td>in Advanced courses. Student must return in the summer following graduation</td>
</tr>
<tr>
<td></td>
<td>and complete courses for Advanced certificate.</td>
</tr>
<tr>
<td></td>
<td>2 consecutive semesters earn Basic Dental Assisting (BDA1) and Advanced</td>
</tr>
<tr>
<td></td>
<td>Dental Assisting (AD21) Certificates</td>
</tr>
<tr>
<td><strong>EARLY CHILDHOOD EDUCATION</strong></td>
<td>2 semesters - 1 semester earns Child Development Specialist (CD61) and Early</td>
</tr>
<tr>
<td></td>
<td>Childhood Care and Education Basics (EC31) Certificates</td>
</tr>
<tr>
<td><strong>GAME DEVELOPMENT</strong></td>
<td>2 semesters earn Animation and Game Design Specialist (AAG1) Certificate</td>
</tr>
<tr>
<td><strong>PATIENT CARE ASSISTING</strong></td>
<td>2 semesters earn Nurse Aide (CN21) Certificate</td>
</tr>
<tr>
<td><strong>PHARMACY</strong></td>
<td>Student will complete certificate upon clinical completion in summer quarter</td>
</tr>
<tr>
<td></td>
<td>or during senior year.</td>
</tr>
<tr>
<td></td>
<td>3 semesters earn Pharmacy Assistant (PB71) Certificate</td>
</tr>
<tr>
<td><strong>WELDING</strong></td>
<td>1 semester earns Basic Shielded Metal Arc Welder Certificate</td>
</tr>
<tr>
<td></td>
<td>2 semesters earn Basic Shielded Metal Arc Welder and Advanced Shielded Metal</td>
</tr>
<tr>
<td></td>
<td>Arc Welder Certificates</td>
</tr>
</tbody>
</table>
The Work-Based Learning (WBL) program is designed to provide experiences and activities that support a school to career transition. This simply means that students are allowed to work off campus in the business community in order to learn more about a chosen career. Once a student has met all requirements for WBL, the WBL Coordinator will determine the correct WBL placement for the student. The students will earn one unit of credit for each completed WBL course.

WBL IS AVAILABLE THROUGH THE FOLLOWING PROGRAMS

- Agriculture, Food and Natural Resources
- Architecture and Construction
- Arts, Audio-Video Technology and Communications
- Business Management and Administration
- Education and Training
- Finance
- Government and Public Administration
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections and Security
- Manufacturing
- Marketing
- Science, Technology, Engineering and Mathematics
- Transportation, Distribution and Logistics
WORK-BASED LEARNING

REQUIREMENTS FOR WBL
- Students who are enrolled in college or career pathway course work can apply for the Work-Based Learning Program.
- Students must be in grades 11 or 12
- Students must be at least 16 years old
- Students must have good attendance, discipline, and teacher recommendations
- Students must have a 2.0 GPA or higher
- The structured work experience must be a job or unpaid internship matching the career goal and course work of the pathway.

EMPLOYABILITY SKILL DEVELOPMENT (ESD)
- Paid entry level work
- Limited to one year
- May or may not be linked to a specific pathway
- Must have completed or be currently enrolled in a college or career pathway course

INTERNSHIP
- Can be paid or unpaid work experience
- Directly related to a student’s career pathway
- Can occur in the school or the work place
- Must have earned one credit in a college and career pathway

COOPERATIVE EDUCATION (CO-OP)
- Paid work experience
- Directly related to student’s career pathway
- Enrolled in a course that is directly related to job placement

YOUTH APPRENTICESHIP (YAP)
- Paid work in a highly technical, highly skilled position
- Work in chosen career area
- Student must have post-secondary education plans in chosen career area (earning a degree, licensing, or certification depending on career requirement)

CAREER AND TECHNICAL STUDENT ORGANIZATIONS
- DECA
- FBLA
- FCCLA
- FFA
- FIRST Robotics
- HOSA
- SkillsUSA

VISIT US ON SOCIAL MEDIA
- Instagram dcswbl
- Twitter @dcswbl
COMMITMENT
To create among members, educators and business and industry an adherence and appreciation for all Career, Technical, and Agricultural Education Programs

CONVICTION
To develop patriotism through knowledge of our nation’s heritage and practice of democracy

EDUCATION
To create enthusiasm and empower students to become lifelong learners

INTEGRITY
To deal honestly and fairly with one another

LEADERSHIP
To develop leadership abilities through participation in educational, professional, community and social activities

PROFESSIONALISM
To promote high standards in career ethics, workmanship, scholarship, and safety

RECOGNITION
Appreciation of the value of achievement

SERVICE
To cultivate a desire to contribute to the benefit and welfare of others

TEAMWORK
To enhance the ability of students to plan together, organize and carry out worthy activities and projects through the use of the democratic process

CTSO CORE VALUES
Career and Technical Student Organizations (CTSO) are designed to build character and develop leadership abilities of high school students. CTSO’s promote active community involvement, providing service to others, and participation in competitive events with other high school students across the state. Involvement in CTSO’s provide valuable life lessons and educational experiences to prepare students for success in today’s society.

VISIT US ON SOCIAL MEDIA

DECA Instagram
- Alexander High School@ahsdeca
- Chapel Hill High School@chsdeca
- Douglas County High School@dhs.deca
- Lithia Springs High School@lhs.deca

FCCLA Instagram
- Chapel Hill High School@chhsfccla

CTSO Twitter
- Chapel Hill High School@chhdeca

FCCLA Twitter
- Chapel Hill High School@chhsfccla
**DECA**

**Distributive Education Clubs of America**

DECA prepares emerging leaders and entrepreneurs for careers in marketing, finance, hospitality and management in high schools and colleges around the globe. DECA currently operates in the over 4,000 high schools in many different countries including Mexico, Germany, Puerto Rico, and Canada. DECA is a co-curricular student organization in which students gain leadership and communication skills. DECA members are given opportunities to participate in: community service, competitions, and conferences at the local, state, and national level, post-secondary school exploration, job-shadowing, hosting and participating in events, and real-world industry visits. DECA gives students the chance to work with real business partners and can open the door for future employment opportunities. As an organization, DECA holds an annual Fall Leadership Conference that sharpens the skills and techniques of the attendees. At the annual state conference, students are also allowed to compete in a range of areas including Sports and Entertainment Marketing, Apparel and Accessories, Automotive, Restaurant Management, Accounting and many more. There is over $300,000 of scholarship money from DECA's corporate sponsors available to its members.

www.gadeca.org

www.deca.org

---

**FBLA**

**Future Business Leaders of America**

Georgia FBLA is a nonprofit student organization committed to preparing today’s students for success in business leadership. With over 50 years of experience, Georgia FBLA is the premiere organization for student leaders.

Georgia FBLA is an affiliate of Future Business Leaders of America-Phi Beta Lambda, Inc., the largest student business organization in the world with more than 250,000 members. Georgia is also the largest FBLA chapter in the nation with over 20,000 members.

FBLA is an important partner in the success of school-to-work programs, business education curriculums, and student leadership development. FBLA is recognized by the U.S. Department of Education and Labor as an integral part of a co-curricular approach to business and leadership education.

The FBLA mission is to bring business and education together in a positive working relationship through innovative leadership and career development programs. We bring our mission to life through the application of our motto: Service, Education, and Progress.

---

**FCCLA**

**Family, Career, and Community Leaders of America**

FCCLA is a national student organization that helps young men and women become leaders and address important personal, family, work, and social issues through family and consumer sciences education. Through cooperative and competitive programs, FCCLA members develop skills for life including character development, creative and critical thinking, interpersonal communication, practical knowledge, and career preparation. Participation in national programs and co-curricular chapter activities enables FCCLA members to learn cooperation, take responsibility, develop leadership, and give service.
FA
An Association of Agricultural Students

FFA represents the relevancy to the core areas offering students opportunities that change lives and prepares students for premier leadership, personal growth, and career success. Founded in 1928, the FFA organization represents a large diversity of over 300 careers in the food, fiber, and natural resources industry. FFA is an integral part of a school system. FFA uses agricultural education to create real-world success. Agriculture teachers become advisors to local FFA chapters, which students join. More than 7,000 FFA chapters are currently in existence; their programs are managed on a local, state, and national level. Each chapter’s Program of Activities is designed with the needs of the students in mind. Activities vary greatly from school to school but are based in a well-integrated curriculum. Chapter activities and FFA programs concentrate on three areas of our mission: premier leadership, personal growth, and career success. The FFA motto gives members twelve short words to live by as they experience the opportunities in the organization. Learning to Do, Doing to Learn, Earning to Live, Living to Serve.

HOSAn
Future Health Professionals

Health Science Technology Education (HSTE) is a national student organization that provides a unique program of leadership development, motivation, and recognition exclusively for secondary, post-secondary, collegiate, and adult students enrolled in health occupations education courses or instructional programs. HOSA is an integral part of approved health occupation programs. Health Science Technology Education (HSTE) students who become active members in a local HOSA chapter are eligible for membership in state and national HOSA.

The mission of HOSA is to enhance the delivery of compassionate, quality health care by providing opportunities for knowledge, skill and leadership development of all health occupations education students, therefore helping the students to meet the needs of the health care industry. For more information, go to www.hosa.org or www.georgiahosa.org.

FIRST Robotics
For Inspiration and Recognition of Science and Technology

FIRST was founded in 1989 to inspire young people’s interest and participation in science and technology. Based in Manchester, NH, the 501(c)(3) not-for-profit public charity designs accessible, innovative programs that motivate young people to pursue education and career opportunities in science, technology, engineering, and math, while building self-confidence, knowledge, and life skills. FIRST is More Than Robots. FIRST participation is proven to encourage students to pursue education and careers in STEM-related fields, inspire them to become leaders and innovators, and enhance their 21st century work-life skills.

SkillsUSA
Champions at Work

SkillsUSA is a partnership of students, teachers, and industry representatives working together to ensure America has a skilled work force. It helps each student excel. SkillsUSA serves teachers and high school students who are preparing for careers in trade, technical, and skilled service occupation, including health occupations. More than 300,000 students and instructors join SkillsUSA annually, organized into more than 17,000 sections and 54 state and territorial associations. SkillsUSA has served more than 9.9 million members since its founding. SkillsUSA is an applied method of instruction for preparing America’s high performance workers enrolled in public career and technical programs. It provides quality educational experiences for students in leadership, teamwork, citizenship, and character development. It builds and reinforces self-confidence, work attitudes, and communications skill. It emphasizes total quality at work: high ethical standard, superior work skill, life-long education, and pride in the dignity of work. SkillsUSA also promotes understanding of the free-enterprise system and involvement in community service.
AP and Honors courses provide students with more academic rigor, opportunity for enrichment, and opportunity to work toward the AP test in English. Basic requirements for Honors and AP courses include a higher reading level, willingness and ability to accept more academic rigor, self-discipline and motivation, and a desire to prepare for college. Students who wish to take honors and AP English courses should see their current teacher for a recommendation.

### 9TH GRADE REP - BASIC READING AND WRITING I (READ 180)

**Grade 9**  
**Prerequisite** EOG Test Scores  
Provides fundamental skills development in all areas of English/Language Arts in a language lab setting which includes, drill and practice opportunities in writing, organizing, speaking, reading, and critical thinking.

### 9TH GRADE LITERATURE AND COMPOSITION

**Grade 9**  
**Prerequisite** 8th Grade English  
Integrates writing, grammar and usage, literature, speaking, listening, and critical thinking skills. Presents the writing process: planning, drafting, revising, editing and proofing; the study of form in personal narratives, descriptions, and expository papers. Includes reading a variety of multicultural literature: short stories, novels, tales, poetry, Shakespearean drama, and nonfiction. Emphasizes oral and written response to literature, distinguishing characteristics of various genres, literary elements, and vocabulary study.

### HONORS 9TH GRADE LITERATURE AND COMPOSITION

**Grade 9**  
**Prerequisite** 8th Grade Teacher Recommendation, COG Scores or Parent Waiver  
Integrates writing, grammar and usage, literature, speaking, listening, and critical thinking skills. Presents the writing process: planning, drafting, revising, editing and proofing; the study of form in personal narratives, descriptions, and expository papers with emphasis on writing. Includes reading a variety of multicultural literature: short stories, novels, tales, poetry, Shakespearean drama, and nonfiction. Emphasizes oral and written response to literature, distinguishing characteristics of various genres, literary elements, and vocabulary study. Summer reading assignments are mandatory, and outside reading is required throughout the course.

### 10TH GRADE LITERATURE AND COMPOSITION

**Prerequisite** 9th Grade Literature and Composition  
Includes literary selections from multiple genres to improve reading comprehension and a strong ability to analyze various genres of writing. Stresses organization and development of logical, analytical thinking. Includes grammar, mechanics, usage, research skills, and activities designed to enhance problem solving, critical analysis, and listening abilities. Presents the writing process, with a focus on argumentative writing and research skills.
ENGLISH

HONORS 10TH GRADE LITERATURE AND COMPOSITION
Prerequisite: Honors 9th Grade Literature and Composition, Teacher Recommendation or Parent Waiver
Includes literary selections from multiple genres to improve reading comprehension and a strong ability to analyze various genres of writing. Stresses organization and development of logical, analytical thinking. Includes grammar, mechanics, usage, research skills, and activities designed to enhance problem solving, critical analysis, and listening abilities. Summer reading assignments are mandatory, and outside reading is required throughout the course.

AMERICAN LITERATURE AND COMPOSITION
Prerequisite: 9th Grade Literature and Composition, 10th Grade Literature and Composition
Offers opportunities to improve reading, writing, speaking, listening, and critical thinking skills through the study of American literature. Includes a variety of literary genres and multicultural writers in a chronological or thematic pattern. Emphasizes developing control in expository writing (thesis support), moving toward precision in personal narrative, descriptive, and persuasive writing. Refines research skills. Integrates grammar, mechanics, and usage into the writing process.

HONORS AMERICAN LITERATURE AND COMPOSITION
Prerequisite: Honors 9th and 10th Grade Literature, Teacher Recommendation or Parent Waiver
Offers opportunities to improve reading, writing, speaking, listening, and critical thinking skills through the study of American literature. Includes a variety of literary genres and multicultural writers in a chronological or thematic pattern. Emphasizes developing control in expository writing (thesis support), moving toward precision in personal narrative, descriptive, and persuasive writing. Refines research skills. Integrates grammar, mechanics, and usage into the writing process. Emphasizes oral and written response to literature, distinguishing characteristics of various genres, literary elements, and vocabulary study. Summer reading assignments are mandatory, and outside reading is required throughout the course.

AP LANGUAGE AND COMPOSITION
Grade 11
Prerequisite: Honors 10th Grade Literature, Teacher Recommendation or Parent Waiver
This college-level class is designed to help students become skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts and to become skilled writers who can compose for a variety of purposes. Through their writing and reading in this course, students should become aware of the interactions among a writer’s purposes, audience expectations, and subjects, as well as the way generic conventions and the resources of language contribute to effective writing. Summer reading assignments are mandatory, and outside reading is required throughout the course.

12TH GRADE BRITISH LITERATURE AND COMPOSITION
Grade 12
Prerequisite: 9th Grade Literature and Composition, 10th Grade Literature, and Compositor and American Literature
Offers opportunities to improve reading, writing, speaking, listening, and critical thinking skills through the study of literary selections from British/English writers organized chronologically or thematically. Emphasizes developing control in expository writing (thesis support), moving toward precision in personal narrative, descriptive, and persuasive writing. Refines research skills. Integrates grammar, mechanics, and usage into the writing process.

AP LITERATURE AND COMPOSITION
Grade 12
Prerequisite: 11th Grade American Literature, AP Language and Composition, Teacher Recommendation, or Parent Waiver
This course conforms to the College Board recommendations for the AP Literature and Composition Examination. It covers the study and practice of writing and the study of literature. It emphasizes writing critical analysis of literature and includes essays in exposition and argument, poetry, drama, prose fiction, and expository literature.

AP CAPSTONE SEMINAR
Grade 10, 11
A foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational literary and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in research based written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate with accuracy and precision in order to craft and communicate evidence-based arguments.
**ENGLISH**

**AP RESEARCH PROJECT**  
*Grade 11, 12*

The College Board's Advanced Placement Program is collaborating to offer the AP Capstone Program and Credential, designed to support high school students in developing skills increasingly valued by Colleges. The AP Capstone Research Project is an independent mentored project culminating in a 4,500- to 5,000-word academic paper. It enables students to develop practical skills in research methodology and in managing a sustained piece of academic work. Students are evaluated on their ability to design, plan and manage a research project; collect and analyze information; evaluate and make reasoned judgments; and communicate their findings and conclusions.

**MYTHOLOGY**  
*Grade 10, 11, 12*

**Prerequisite** 9th Grade Literature and Composition

This course is designed to enrich student knowledge of classical mythology and explore how the myths of ancient civilizations affect literature today. Students study the creation myths from different cultures: Classical Greek and Roman Mythology, British Mythology, Norwegian Mythology, Native American Mythology, Pacific Mythology, Middle Eastern (Arabian) Mythology, African Mythology, and Oriental Mythology. Students learn to compare and contrast myths and discuss common elements in myths, interpret meaning in myths, and examine cultural and historical context in which they were written. Elements of modern myths are examined, and the relation of myth to other literature is a major component of the course. Counts for elective English credit.

**YEARBOOK/JOURNALISM**  
*Grade 10, 11, 12*

**Prerequisite** Application, Teacher Recommendation and Approval, Willingness to Learn Desktop Publishing, Satisfactory Grades in All English Courses

Yearbook journalism is an English elective class that produces the school's yearbook. Students must be able to attend events and activities before and after school. Counts for elective English credit.

**NEWSPAPER JOURNALISM**  
*Grade 10, 11, 12*

**Prerequisite** 9th Grade Literature and Composition

Journalism introduces students to the exciting world of the print and digital media. Law, ethics, and the history of journalism will complement the major units of study: reporting, writing, editing, advertising and design. This course is designed to enable students to learn the art of reporting, writing, and presenting the news. Counts for elective English credit.

**MULTICULTURAL LITERATURE**  
*Grade 10, 11, 12*

**Prerequisite** 9th Grade Literature and Composition

Multicultural Literature focuses on works by and about people of diverse ethnic backgrounds (African, African-American, Native American, Asian, Hispanic/Latin). It stresses exploring themes of linguistic and cultural diversity and developing critical thinking skills through class discussion and oral and written presentations. Counts for elective English credit. Some colleges may not recognize this course for 12th grade English credit.

**FILM STUDY**  
*Grade 11, 12*

An introduction to the concepts and techniques of film analysis and criticism. This course is divided into genres and focuses on using film as literature to study various cultures through visual and narrative means and critically analyze the filmmaking process, as well as other forms of visual media. An exploration of theme, tone, and author’s purpose are also strongly emphasized. Film Study focuses on the relationship between literature and the efficacy of aesthetic theory as a mode of viewing and interpretation. We will explore these issues in relation to specific works of film and literature.
Georgia Mathematics focuses on actively engaging the student in the development of mathematical understanding by working independently and cooperatively to solve problems, estimating and computing efficiently, using appropriate tools, concrete models and a variety of representations, and conducting investigations and recording findings. There is a shift toward applying mathematical concepts and skills in the context of authentic problems and student understanding of concepts rather than merely following a sequence of procedures. In mathematics classrooms, students will learn to think critically in a mathematical way with an understanding that there are many different solution pathways and sometimes more than one right answer in applied mathematics. Mathematics is the economy of information. The central idea of all mathematics is to discover how knowing some things leads, via reasoning, to knowing more—without having to commit the information to memory as a separate fact. It is the reasoned, logical connections that make mathematics manageable. The implementation of the Georgia Standards of Excellence in Mathematics places the expected emphasis on sense-making, problem solving, reasoning, modeling, representation, connections, and communication.

GSE FOUNDATIONS OF ALGEBRA

Foundations of Algebra is a first year high school mathematics course option for students who have completed mathematics in grades 6 – 8 yet will need substantial support to bolster success in high school mathematics. The course is aimed at students who have reported low standardized test performance in prior grades and/or have demonstrated significant difficulties in previous mathematics classes.

Foundations of Algebra will provide many opportunities to revisit and expand the understanding of foundational algebra concepts, will employ diagnostic means to offer focused interventions, and will incorporate varied instructional strategies to prepare students for required high school mathematics courses. The course will emphasize both algebra and numeracy in a variety of contexts including number sense, proportional reasoning, quantitative reasoning with functions, and solving equations and inequalities.

Instruction and assessment include the appropriate use of manipulatives and technology. Mathematics concepts are represented in multiple ways, such as concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic. Concepts are introduced and used, where appropriate, in the context of realistic experiences.
GSE ALGEBRA I
Algebra I is the first course in a sequence of three required high school courses designed to ensure career and college readiness. The course represents a discrete study of algebra with correlated statistics applications.

The standards in the three-course high school sequence specify the mathematics that all students should study in order to be college and career ready. Additional mathematics content is provided in fourth credit courses and advanced courses including pre-calculus, calculus, advanced statistics, discrete mathematics, and mathematics of finance courses. High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.

GSE GEOMETRY
Geometry is the second course in a sequence of three required high school courses designed to ensure career and college readiness. The course represents a discrete study of geometry with correlated statistics applications.

The standards in the three-course high school sequence specify the mathematics that all students should study in order to be college and career ready. Additional mathematics content is provided in fourth credit courses and advanced courses including pre-calculus, calculus, advanced statistics, discrete mathematics, and mathematics of finance courses. High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.

GSE ALGEBRA II
Algebra II is the culminating course in a sequence of three high school courses designed to ensure career and college readiness. It is designed to prepare students for fourth course options relevant to their career pursuits.

The standards in the three-course high school sequence specify the mathematics that all students should study in order to be college and career ready. Additional mathematics content is provided in fourth credit courses and advanced courses including pre-calculus, calculus, advanced statistics, discrete mathematics, and mathematics of finance courses. High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.

GSE PRE-CALCULUS
Pre-Calculus is a fourth mathematics course designed to prepare students for calculus and other college level mathematics courses.

High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.

GSE ACCELERATED ALGEBRA I/GEOMETRY A
Accelerated Algebra I/Geometry A is the first in a sequence of mathematics courses designed to ensure that students are prepared to take higher-level mathematics courses during their high school career, including Advanced Placement Calculus AB, and Advanced Placement Statistics.

The standards in the three-course high school sequence specify the mathematics that all students should study in order to be college and career ready. Additional mathematics content is provided in fourth credit courses and advanced courses including, calculus, advanced statistics, discrete mathematics, and mathematics of finance courses. High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.
**MATHEMATICS**

**GSE ACCELERATED GEOMETRY B/ALGEBRA II**

Accelerated Geometry B/Algebra II is the second in a sequence of mathematics courses designed to ensure that students are prepared to take higher-level mathematics courses during their high school career, including Advanced Placement Calculus AB, and Advanced Placement Statistics.

The standards in the three-course high school sequence specify the mathematics that all students should study in order to be college and career ready. Additional mathematics content is provided in fourth credit courses and advanced courses including, calculus, advanced statistics, discrete mathematics, and mathematics of finance courses. High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.

**GSE ACCELERATED PRE-CALCULUS**

Accelerated Pre-Calculus is the third in a sequence of mathematics courses designed to ensure that students are prepared to take higher-level mathematics courses during their high school career, including Advanced Placement Calculus AB, and Advanced Placement Statistics.

The standards in the three-course high school sequence specify the mathematics that all students should study in order to be college and career ready. Additional mathematics content is provided in fourth credit courses and advanced courses including, calculus, advanced statistics, discrete mathematics, and mathematics of finance courses. High school course content standards are listed by conceptual categories including Number and Quantity, Algebra, Functions, Geometry, and Statistics and Probability. Conceptual categories portray a coherent view of high school mathematics content. A student’s work with functions, for example, crosses a number of traditional course boundaries, potentially up through and including calculus. Standards for Mathematical Practice provide the foundation for instruction and assessment.

**AP CALCULUS**

**Grade 12**

**Prerequisite** Accelerated Pre-Calculus or Pre-Calculus or Parent Waiver

This course follows the College Board syllabus for the AP Calculus AB Examination. The content includes properties of functions and graphs, limits and continuity, differential calculus, and integral calculus.

**AP STATISTICS**

**Grade 12**

**Prerequisite** Accelerated Pre-Calculus or Pre-Calculus or Teacher Recommendation

This course conforms to the College Board recommendation for the AP Statistics. The course enables students to apply statistical methods in problem solving using data collected through experimentation, computer simulations, and various sources; provides opportunities to model statistical methods, derive probabilities, and make inferences; presents applications of statistics in real-life situations; and shows how misleading statistics could be better presented.

**COLLEGE READINESS MATHEMATICS**

This is a fourth course option for students who have completed Algebra I or Coordinate Algebra, Geometry or Analytic Geometry, and Algebra II or Advanced Algebra, but are still struggling with high school mathematics standards essential for success in first year post-secondary mathematics courses required for non-STEM majors. The course is designed to serve as a bridge for high school students who will enroll in non-STEM post-secondary study and will serve to meet the high school fourth course graduation requirement.

The course will revisit and expand the understanding of content standards introduced in earlier mathematics courses and will emphasize numeracy, algebra and functions, geometry, and statistics in a variety of contexts. Instruction and assessment should include the appropriate use of manipulative and technology. Mathematics concepts are be represented in multiple ways, such as concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic. Concepts are introduced and used, where appropriate, in the context of realistic experiences. The Standards for Mathematical Practice will provide the foundation for instruction and assessment.
**ACADEMIC AND HONORS, AP CLASSES**

**SCIENCE**

**BIOLOGY I**  
*Grade 9*  
*Prerequisite* None  
This is an introductory course in biology and is the study of the chemical and physical properties of life. During the course students will actively delve into all aspects of the living world including, but not limited to, the cell, biological diversity and change, genetics, ecology, and biochemistry.

**HONORS BIOLOGY I**  
*Grade 9*  
*Prerequisite* Honors Program, Parent Waiver  
Honors Biology involves in-depth study of the development of living organisms from cellular to organism levels and emphasizes relationships between the living and non-living realms of various ecosystems throughout the world. These same concepts are addressed in any college preparatory biology course, but Honors Biology is differentiated for accelerated learners through the rate and depth of coverage and the focus of the instructional modes. Emphasis is placed upon learner-centered investigations involving problem-solving, real-world application, and critical thinking about issues of significance on personal, community, state, national, and global levels.

**PHYSICAL SCIENCE**  
*Grade 10*  
*Prerequisite* Biology  
Students in this course will learn basic concepts about matter and energy. They will use appropriate scientific processes and investigative techniques to explore both matter and energy and the laws governing relationships of these in the universe.

**HONORS PHYSICAL SCIENCE**  
*Grade 10*  
*Prerequisite* Honors Program, Parent Waiver  
This course includes matter and energy concepts with emphasis on higher-order thinking skills. While many of the objectives for this course are similar to Physical Science, these objectives are differentiated to allow for more interdisciplinary topics and greater amounts of independent study and research.

---

**AP LANGUAGE COMPOSITION**  
*Grade 9, 10, 11*  
*Prerequisite* Test Scores  
Provides fundamental skills development in all areas of English/Language Arts.

---

**SCHOOL KEY SYSTEM**

- Alexander High School  
- Chapel Hill High School  
- Douglas County High School  
- Lithia Springs High School  
- New Manchester High School  
- College & Career Institute
CHEMISTRY I
Grade 11
Prerequisite Physical Science, Biology, Algebra I
This course provides the student with understanding of basic chemical knowledge regarding areas such as atomic structure, bonding, nomenclature, chemical reactions, pH, and solutions. All topics will be addressed in terms of practical applications based on common uses in the home and workplace.

HONORS CHEMISTRY I
Grade 10, 11, 12
Prerequisite Honors Program, Physical Science, Biology, Algebra I, Parent Waiver
The student will learn facts, formulas, and principles necessary to the essential understanding of the field of chemistry. The student will learn the fundamental concepts underlying the nature of chemistry and its role in society. Although this course covers many of the same topics as Chemistry I, students are provided numerous opportunities to develop critical thinking and problem solving skills to use not only in chemistry, but also in everyday life. This course is designed to be an Honors Chemistry course giving students the skills necessary to succeed at this level of work.

AP CHEMISTRY I
Grade 10, 11
Prerequisite Physical Science, Biology, Chemistry, Algebra I, Teacher Approval, Parent Waiver
This course is a college level study of the nature of matter and will include chemical nomenclature, stoichiometry, bonding, molecular geometry, chemical kinetics, equilibrium, and reaction rates. Special emphasis will be placed upon chemical thermodynamics and electrochemistry. Good for students perusing degrees in Pharmacy.

HUMAN ANATOMY/PHYSIOLOGY
Grade 12
Prerequisite Physical Science, Biology, and Chemistry
Human Anatomy and Physiology is a rigorous college preparatory, life science course that requires more time in self-study and requires a higher level of discipline. It is a continuation and extension of the life science investigations of previous grades and can serve as the third or fourth year of science that is required for graduation. This course is designed to provide students the opportunity to develop academic practices, learn process skills, higher order thinking skills, and acquire content knowledge necessary to be literate and proficient in Human Biology. The content will be investigated through numerous laboratory and field experiences, various individual and group projects and activities, and traditional educational practices.

ENVIRONMENTAL SCIENCE
Grade 10, 11, 12
Prerequisite Biology, Physical Science
The Environmental Science curriculum is designed to extend student investigations that began in grades K-8. This curriculum is extensively performance, lab and field based. It integrates the study of many components of our environment, including the human impact on our planet. Instruction should focus on student data collection and analysis. Some concepts are global; in those cases, interpretation of global data sets from scientific sources is strongly recommended. It would be appropriate to utilize resources on the Internet for global data sets and interactive models. Whenever possible, careers related to environmental science should be emphasized.

EARTH SYSTEMS
Grade 11, 12
Prerequisite Biology, Chemistry, Physical Science
This course is designed to continue student investigations, curricula and investigate the connections among Earth’s systems through Earth history. These systems – the atmosphere, hydrosphere, geosphere, and biosphere – interact through time to produce the Earth's landscapes, ecology, and resources. This course develops the explanations of phenomena fundamental to the sciences of geology and physical geography, including the early history of the Earth, plate tectonics, landform evolution, the Earth's geologic record, weather and climate, and the history of life on Earth. Instruction should focus on inquiry and development of scientific explanations, rather than mere descriptions of phenomena. Case studies, laboratory exercises, maps, and data analysis are integrated into units.

PHYSICS
Grade 11, 12
Prerequisite Physical Science, Passed or Taking Math 3
Physics is the study of the interactions of matter and energy. It includes concepts such as velocity, acceleration, force, momentum and charge. Students investigate physics concepts through experience in laboratories and field work using the processes of inquiry.

AP PHYSICS I
Prerequisite or Co-Prerequisite Pre-Calculus
AP Physics 1 is an algebra-based, introductory college-level physics course that explores topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits. Through inquiry based learning, students will develop scientific critical thinking and reasoning skills. This course requires that 25 percent of the instructional time will be spent in hands-on laboratory work, with an emphasis on inquiry based investigations that provide students with opportunities to apply the science practice. Students should have completed geometry and be concurrently taking Algebra II or an equivalent course. Although the Physics I course includes basic use of trigonometric functions, this understanding can be gained either in the concurrent math course or in the AP Physics I course itself. No prior course work in physics is necessary.
AP PHYSICS C: MECHANICS
AP Physics C: Mechanics is equivalent to a one-semester, calculus based, college-level physics course, especially appropriate for students planning to specialize or major in physical science or engineering. The course explores topics such as kinematics; Newton’s Laws of motion; work, energy and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Introductory differential and integral calculus is used throughout the course. Students should have taken or be concurrently taking calculus.

AP BIOLOGY I
Grade 11, 12
Prerequisite Honors Program, Biology, Chemistry, Parent Waiver, Teacher Recommendation
AP Biology aims to help students gain a conceptual framework for modern biology and an appreciation of science as a process. The three main areas of focus are: molecules and cells, heredity and evolution, organisms and populations. Primary focus will be on developing an understanding of concepts rather than on memorizing terms and technical details.

AP ENVIRONMENTAL SCIENCE
Grade 11, 12
Prerequisite Honors Program, Biology, Physical Science, Parent Waiver, Teacher Recommendation
The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Topics include: energy, resources, human impact, natural processes and relationships in the environment and sustainability issues.

AP COMPUTER SCIENCE A
The AP Computer Science A course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design. AP Computer Science A focuses on the Java programming language. Students are encouraged to take AP Computer Science Principles prior to taking AP Computer Science A.

FORENSIC SCIENCE
Grade 11, 12
Prerequisite Biology, Chemistry or Physical Science
Forensic Science is the application of scientific evidence for use in a court of law. In this introductory course, students rely on a thorough understanding of the principles and techniques of science to solve problems. As a consequence, students expand their science skills and knowledge base. The course work requires students to carry out experiments, solve problems using analytical and critical-thinking skills, and communicate their findings to others.

ASTRONOMY
Grade 11, 12
Prerequisite Physical Science
This course will provide the student with an introduction to the concepts of modern astronomy, the origin and history of the Universe and the formation of the Earth and the solar system. Students will compare the Earth’s properties with those of the other planets and explore how the heavens have influenced human thought and action. The course gives a description of astronomical phenomena using the laws of physics. The course treats many standard topics including planets, stars, the Milky Way and other galaxies, black holes to more esoteric questions concerning the origin of the universe and its evolution and fate. Although largely descriptive, the course will occasionally require the use of sophomore-high level mathematics. Laboratory exercises include experiments in light properties, measurement of radiation from celestial sources, and observations at local observatories and/or planetariums.

ZOOLOGY
Grade 11, 12
Prerequisite Biology, Physical Science
Zoology is the study of all things dealing with animals. As the science has advanced over the decades, modern zoologists study more than just recognition and classification of animals; their attention now includes animal anatomy, physiology, development, histology, ecology, behavior, and evolution. The ‘story’ of animals is told through evolutionary patterns across deep spans of time. Thus, the focus of this course is the recognition of key features of the major body plans that have evolved in animals and how those body plans have changed over time resulting in the diversity of animals that are evident today.
SOCIAL STUDIES

ACADEMIC AND HONORS, AP CLASSES

CIVICS/CITIZENSHIP OR AMERICAN GOVERNMENT
Grade 9
Prerequisite None
Focuses on basic concepts and principles of the American political system. Covers the structure and function of the American system of government, the roles and responsibilities of citizen participation in the political process, and the relationship of the individual to the law and legal system. Stresses critical analysis of public issues. Integrates and reinforces social studies skills.

WORLD HISTORY
Grade 10
Prerequisite None
Emphasizes the political, cultural, economic, and social development and growth of civilizations. Covers the development of change beginning with ancient civilizations, the emergence of nations through trade/communications, intellectual development, scientific/technological development, emergence of nation states, nations in conflict and the emerging interdependence of nations in the twentieth century.

AP AMERICAN GOVERNMENT OR HONORS GOVERNMENT
Grade 9, 10, 11, 12 (AHS 11 &12 grades only)
Prerequisite Teacher Approval, Honors Program, Parent Waiver
AP U.S. Government and Politics will provide students an intellectual foundation for observing, analyzing, and understanding national politics in the United States. Using primary and secondary source documents, as well as analysis of specific examples, students will examine and evaluate the institutions of American government, political parties and elections, mass media, political behavior, public policies, and the development of individual rights and liberties and their impact on citizens.

AP OR HONORS WORLD HISTORY
Grade 10
Prerequisite Teacher Approval, Honors Program, Parent Waiver
AP World History is a college level course that covers world history through reoccurring themes. Students will cover the interactions between humans and the environment, the development of interaction between cultures, state-building and expansion, the creation and interaction of economic systems, and the development and transformation of social structures. This class is designed to develop the critical thinking skills, the historical thinking skills, and the analytical skills needed for success in the 21st century.
UNITED STATES HISTORY
Grade 11
Prerequisite None
This course traces the development of U.S. History from the colonial era through modern times. Emphasis is placed on the role of the United States as a world leader and issues relevant to the United States today. Students are equipped with the analytic skills and factual knowledge essential to critically examine the conflicts and developments in U.S. history. The course facilitates the development of historical background through analysis of historical documents and secondary source materials. Students learn to assess historical materials in terms of reliability and importance to evaluate scholarly data and interpretations presented within historical scholarship.

HONORS UNITED STATES HISTORY
Grade 11
Prerequisite Teacher Recommendation
This course traces the development of U.S. History from the colonial era through modern times. Emphasis is placed on the role of the United States as a world leader and the issues confronting the United States today. Students will also use critical thinking to link past and present events.

AP UNITED STATES HISTORY
Grade 11
Prerequisite Teacher Approval, Honors Program, Parent Waiver
Conforms to College Board topics for the AP United States History Examination. Covers discovery and settlement, colonial society, the American Revolution, Constitution and the New Republic, Age of Jefferson, Nationalism, Sectionalism, Territorial Expansion, Civil War, Reconstruction, Industrialization, Progressive Era, World War I, Depression, New Deal, World War II, The Cold War, through modern times. Students examine primary documents and acquire the ability to incorporate source material in a thesis driven, analytical, 5-paragraph essay.

AP MACROECONOMICS
Grade 12
Prerequisite Teacher Approval, Honors Program, Parent Waiver
Focuses on the American economic system; covers fundamental economic concepts, comparative economic systems, micro-economics, macroeconomics, and international economic interdependence. Stresses the ability to analyze critically and to make decisions concerning public issues. The honors course has emphasis on writing assignments.

AP MICROECONOMICS
Grade 11, 12 (AHS, CHHS and NMHS 12th grade only)
Prerequisite Teacher Approval, Honors Program, Parent Waiver
This course is designed to provide students with a thorough understanding of the principles of economics as they apply to individual decision-making units, including individual households and firms. Students taking the course will spend time examining the theory of consumer behavior, the theory of the firm, and the behavior of profit-maximizing firms under various market structures. They will evaluate the efficiency of the outcomes with respect to price, output, consumer surplus, and producer surplus. Students will have an opportunity to examine the behaviors of households and businesses in factor markets, and learn how the determination of factor prices, wages, interest, and rent influence the distribution of income in a market economy. Students will also consider instances in which private markets may fail to allocate resources efficiently and examine various public policy alternatives aimed at improving the efficiency of private markets.

CURRENT ISSUES
Grade 10, 11, 12
Prerequisite None
Analyzes current issues and influences that are related to these issues and examines how decisions are made concerning those issues. Integrates and reinforces social studies skills.

PSYCHOLOGY
Grade 11, 12
Prerequisite None
This year-long, one credit elective course investigates the relationship of psychology, the scientific study of behavior and mental processes, to other sciences. The main topics of study are the basic principles of psychology, contributions of major psychologists, the scientific method, uniqueness, experimental ethics, developmental psychology, heredity and environmental aspects of psychology, learning theory, memory and thinking types, biological bases of behavior, personality, intelligence, social disorders, awareness, emotion, motivation, conflict resolution, and research methods used in the study of psychology.
SOCIAL STUDIES

AP PSYCHOLOGY

Grade 11, 12
Prerequisite Teacher Approval, Honors Program, Parent Waiver

This year-long, one credit elective course conforms to the College Board topics for the Advanced Placement Psychology examination. This course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students will be exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. Course topics include the following: Psychological History and Approaches; Research Methods; Biological Bases of Behavior; Sensation and Perception; States of Consciousness; Learning; Cognition; Motivation and Emotion; Developmental Psychology; Testing and Individual Differences; Abnormal Psychology; Treatment of Psychological Disorders; and Social Psychology. The expectations and class rigor are equivalent to a college freshman Psychology class.

AP HUMAN GEOGRAPHY

Grade 9-12
Prerequisite Teacher Approval, Honors Program, Parent Waiver

The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth’s surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their science and practice.

AP EUROPEAN HISTORY

Grade 11, 12
Prerequisite Teacher Approval, Honors Program, Parent Waiver

Conforms to College Board topics for the AP European History Examination. Covers intellectual and cultural history, political and diplomatic history, and social and economic history. Students examine primary documents and acquire the ability to incorporate source material in a thesis driven, analytical, 5-paragraph essay.

SOCIOLOGY

Grade 11, 12
Prerequisite None

This course will introduce students to the sociological perspective in examining our lives and social experiences, as well as many issues facing society today. In this respect, students should think of this course as a "sampler" on the sociological menu. Furthermore, through this course, students should come to realize how many aspects of their lives are influenced by the social world in which they live and, as a result, a student should obtain a better understanding of her/himself as social individuals and her/his place in society.

AP CAPSTONE SEMINAR

Grade 10, 11
Prerequisite Teacher Approval, Honors Program, Parent Waiver

The College Board's Advanced Placement Program and Alexander High School are collaborating to offer the AP Capstone Program and Credential, designed to support high school students in developing increasingly valued skills by colleges. The seminar course is composed of Interdisciplinary Investigations and Critical Reasoning Seminar and focuses on developing inquiry skills - through writing, researching and team projects - by exploring specific topics of global relevance. Topics are selected by individual schools and are drawn from a list that includes such subjects as: alternatives to oil, endangered cultures, global climate change, integration and multiculturalism, medical ethics and priorities. Students in the seminar course are assessed through a written exam, a presentation and a team project.

US HISTORY IN FILM

Grade 11, 12
Prerequisite None

This course will treat Hollywood feature films as historical evidence. Students will view films that cover various topics in US history (American Revolution, Great Depression, World Wars, Civil Rights Movement, Vietnam, The War on Terror, and others), and then with outside readings, lectures, and class discussions, they will assess the validity of the films as historical sources. A goal of this course is to help students improve their research (validity of sources, author’s/filmmaker’s point-of-view, etc.) and writing skills through research projects and critical essays.
Please Note: While the Georgia Department of Education no longer requires students to complete two years of a world language for high school graduation, the University System of Georgia does require the completion of two years of the same world language or two years of sign language in order to be considered for admission. Universities may or may not accept World Language credit that appears on a high school transcript but was earned in Middle School.

PREPARING OUR STUDENTS FOR TOMORROW’S WORKPLACE

Second language skills are needed by students for the new global economy for the following reasons:

- Students interested in attending a 4 year college/university must have at least 2 years in a consecutive language.
- The workplace of tomorrow is a world of many cultures and languages. With new forms of global commerce we can’t even imagine today.
- 200,000 Americans annually lose out to jobs with business because they cannot communicate in another language.
- Monolingual speakers can be at a disadvantage in employment and political life.
- Managers who know how to deal with a diverse workforce will have an edge.
- 4 of 5 new jobs in the US are created as a result of foreign trade.
- 1/3 of all corporations in the US are either owned or based abroad.
- Georgia ranks 15th in the US in export sales.
- Students earning 3 or more high school credits in the same language meet the requirements for a World Language Pathway.
WORLD LANGUAGE

FRENCH I
Grade 9, 10, 11, 12
Prerequisite None
This course allows students to begin to develop communication skills on a variety of common topics, such as friends, family, school, and leisure activities. Classwork and homework introduce listening, speaking, reading, and writing functions in the target language, as well as the cultures of regions where French is spoken. The course is designed for students who did not take the two-year French sequence in middle school.

FRENCH II
Grade 9, 10, 11, 12
Prerequisite French I
This course builds on and expands the skills students acquired in French I class. Students communicate in more detail about a broader range of topics and can ask about, narrate and discuss past, present, and future events and plans. Students who have passed the two-year middle school French sequence or one unit of French I at the high school level should enroll in this class.

FRENCH III
Grade 9, 10, 11, 12
Prerequisite French II or Native Speakers
This course allows students to extend the skills and content taught at the French II level in order to participate in more complicated situations, to communicate in extended conversations, to respond to authentic print, audio, and visual media in the target language, to react to current events and cultural patterns in the francophone world, and to develop organized composition and reporting skills in French.

FRENCH IV
Grade 11, 12
Prerequisite French III
As a continuation of French III, this course develops students’ proficiency in using oral and written language to inquire, narrate, and describe in a variety of tenses and situations. Students summarize and respond to authentic materials and media in the target language.

FRENCH V
Grade 12
Prerequisite French IV
This course is a continuation of French IV in which students continue to develop their proficiency in oral and written expression in French. Students read and discuss appropriate literary selections and use oral and written skills to respond to the visual art, music, and drama of the target cultures. Students use extended vocabulary to react to current events and issues present in the target cultures.

AP FRENCH
Grade 11, 12
Prerequisite French IV
Students who enroll in Honors/AP French Language should already have a good command of French grammar and vocabulary and have competence in listening, reading, speaking, and writing. The course will emphasize the students’ ability to understand spoken French in various contexts and develop a vocabulary ample for reading a variety of writings, and their ability to express themselves with reasonable fluency and accuracy in both written and spoken French.
WORLD LANGUAGE

SPANISH I
Grade 9, 10, 11, 12
Prerequisite None
This course allows students to begin to develop communication skills on a variety of common topics, such as friends, family, school, and leisure activities. Classwork and homework introduce listening, speaking, reading, and writing functions in the target language, as well as the cultures of regions where Spanish is spoken. The course is designed for students who did not take the two-year Spanish sequence in middle school.

SPANISH II
Grade 9, 10, 11, 12
Prerequisite Spanish I
This course builds on and expands the skills students acquired in Spanish I class. Students learn to communicate in more detail about a broader range of topics and can ask about, narrate and discuss past, present, and future events and plans. Students who have passed the two-year middle school Spanish sequence or one unit of Spanish I at the high school level should enroll in this class.

SPANISH III
Grade 10, 11, 12
Prerequisite Spanish II or Native Speakers
This course allows students to extend the skills and content taught at the Spanish II level to participate in more complicated situations, to participate in extended conversations, to respond to authentic print, audio, and visual media in the target language, to react to current events and cultural patterns, and to develop organized composition and reporting skills in Spanish.

SPANISH IV
Grade 11, 12
Prerequisite Spanish III
As a continuation of Spanish III, this course develops students’ proficiency in using oral and written language to inquire, narrate, and describe in a variety of tenses and situations. Students summarize and respond to authentic materials and media in the target language. Students read and discuss appropriate literary selections and use oral and written skills to respond to the visual art, music, and drama of the target cultures.

SPANISH V
Grade 12
Prerequisite Spanish IV
This course is a continuation of Spanish IV in which students continue to develop their proficiency in oral and written expression in Spanish. Students read and discuss appropriate literary selections and use oral and written skills to respond to the visual art, music, and drama of the target cultures. They use extended vocabulary to react to current events and issues present in the target cultures.

AP SPANISH
Grade 11, 12
Prerequisite Spanish IV
Students who enroll in Honors/AP Spanish Language should already have a good command of Spanish grammar and vocabulary and have competence in listening, reading, speaking, and writing. The course will emphasize the students’ ability to understand spoken Spanish in various contexts and develop a vocabulary ample for reading a variety of writings, and their ability to express themselves with reasonable fluency and accuracy in both written and spoken Spanish.
GENERAL PHYSICAL EDUCATION I, II, III, IV  
Grade 9, 10, 11, 12  
Prerequisite None  
This elective course is designed to provide students with the opportunity to improve skills in each sport encountered. The emphasis is placed on teaching and improving motor skills unique to each team sport rather than merely playing them. This course will offer the student an opportunity to learn the history, rules, and strategies of specific team sports as well as the opportunity to develop attitudes necessary to play the sport safely and display good sportsmanship. Team Sports is an elective physical education course.

WEIGHT TRAINING  
Grade 9, 10, 11, 12  
Prerequisite None  
This course is designed to allow students to participate in a program of activities, which promote the development of health-related fitness. Activities/workouts may include but not be limited to: weight training (free weights and machines), run/walk activities, flexibility exercises, speed training and relation techniques.

BEGINNING WEIGHT TRAINING  
Grade 9, 10, 11, 12  
Prerequisite Students new to weight training

INTERMEDIATE WEIGHT TRAINING  
Grade 10, 11, 12  
Prerequisite Beginning Weight Training and non-athletes

ADVANCED WEIGHT TRAINING  
Grade 11, 12  
Prerequisite Athletes ONLY  
This elective course is designed to be a continuation of the course required for graduation, Personal Fitness. Several ideas are revisited but many new concepts are introduced. The course is designed to educate the novice and enhance the performance levels of the athlete by covering principles of movement science. Psychological issues are discussed as they relate to physical performance as well. Developing a pattern of involvement in lifetime activity is the desired goal of this course.
FEMALE WEIGHT TRAINING
Grade 9, 10, 11, 12
Prerequisite None
This elective course is designed to introduce students to a rhythmic program of activities to promote the development of health related fitness. The course will provide students with the opportunity to improve cardiovascular fitness, flexibility, muscular strength, muscular endurance and body composition. Fundamental skills will be emphasized in each area, culminating in the performance of simple routines by the students. Instruction in each area will be available as equipment and staff are provided. Aerobic Dance is an elective physical education course.

AEROBICS
Grade 9, 10, 11, 12
Prerequisite None
This elective course is a form of physical exercise that combines rhythmic aerobic exercise with stretching and strength training routines with the goal of improving all elements of fitness (flexibility, muscular strength, and cardio-vascular fitness). With the goal of preventing illness and promoting physical fitness, practitioners perform various routines comprising a number of different dance-like exercises.

LIFETIME SPORTS
Grade 9, 10, 11, 12
Prerequisite None
This elective course is designed to provide students with the opportunity to improve skills in each sport taught. The emphasis is placed on teaching and improving motor skills unique to each individual or dual sport rather than merely playing them. This course will offer the student an opportunity to learn dual sports as well as the opportunity to develop attitudes and judgment necessary to play the sport safely and display good sportsmanship. It is the goal of this course to instill the necessary skills and favorable attitudes to foster lifetime participation. Lifetime Sports is an elective physical education course.

INTRODUCTORY RECREATIONAL GAMES
Introduces recreational games suitable for lifetime leisure activities; may include table tennis, shuffleboard, Frisbee, deck tennis, new games, horseshoes, darts and croquet. Emphasizes the rules of each game and the skills necessary to play.

HEALTH/PERSOONAL FITNESS

HEALTH-This course is designed to give students the opportunity to learn practical skills necessary to implement healthy life choices. The course includes learning activities designed to include students in classroom study, discussions, health labs, Internet activities via health web sites and constantly changing current events. Students are called on to evaluate their current health habits on personal, interpersonal and community levels. A passing grade in this course meets the high school graduation requirements in the area of health and safety. This course is a Douglas County School System graduation requirement.

PERSONAL FITNESS-The primary goal of this course is to help students help themselves. This course shows students that everyone can be healthy and physically fit. It encourages the development and maintenance of personal fitness throughout the life cycle. It is a “personal” course. Students are presented a wide variety of fitness topics. They learn to assess their own personal fitness levels and based on that knowledge, learn to design their own personal fitness programs. Consumer issues related to health and fitness are discussed along with principles of training, nutrition and stress management. This unit course meets the state requirement for Physical Education. This course is a Douglas County School System graduation requirement.

PRINCIPLES OF ATHLETIC TRAINING/SPORTS PROFESSIONALS
Grade 10, 11, 12
Prerequisite None
This elective course is designed to meet the needs of students who are interested in pursuing a career in physical therapy, sports medicine, physical education or some other related field. Students will gain practical experience in the care and prevention of athletic injuries as well as information on how to provide rehabilitation after an injury has occurred. The daily routines of professionals in the field will be studied as well as the college course requirements necessary to pursue the particular field. Basic CPR and First Aid will be included in this course in order to re-certify students on a regular basis. Athletic Training / Sports Medicine is an elective physical education course.
New Manchester High School Fine Arts Magnet Education Programs (FAME) are listed separately beginning on page 88. FAME was founded in 2012 for students with exceptional talent in the arts. Its goal is to develop and nurture talented young artists for successful careers or avocations in the fine arts through extensive training programs and classes in instrumental music, vocal music, drama, dance, visual art, and technical theatre, while maintaining high academic achievement.

BEGINNING BAND LEVELS I, II, III, IV

**Grade 9, 10**  
**Prerequisite** Band in grades 6-8 or audition with Director

This course provides opportunities to develop performance skills on a wind or percussion instrument (preferably wind). It emphasizes performance and production; may include analysis, historical and cultural influences, improvisation and appreciation of music.

INTERMEDIATE BAND LEVELS I, II, III, IV

**Grade 10, 11, 12**  
**Prerequisite** Beginning Band or audition with Director

This course provides opportunities for intermediate-level performers to increase, refine and develop performance and precision skills on a wind or percussion instrument (preferably wind). It emphasizes performance and production; may include analysis, historical and cultural influences, improvisation and appreciation of music at intermediate levels of understanding.

ADVANCED BAND I, II, III, IV

**Grade 10, 11, 12**  
**Prerequisite** Band

This course provides opportunities for advanced-level performers to increase, refine and develop performance and precision skills on a wind or percussion instrument (preferably wind). It emphasizes performance and production; may include analysis, historical and cultural influences, improvisation and appreciation of music at advanced levels of understanding.

INTERMEDIATE INSTRUMENTAL ENSEMBLE

**Grade 9, 10, 11, 12**  
**Prerequisite** Band Member with Percussion Experience

This class is for any band member who has prior experience playing percussion instruments in middle school or high school. It would teach the foundations of all instruments in the percussion section and each student would be expected to be able to play mallet instruments, snare rudiments, as well as many other fundamental skills on the various instruments. The students will be playing music for marching band, concert band, and percussion ensemble. Grades are largely based on class participation and playing tests on all percussion instruments.
FINES ARTS

JAZZ BAND
Grade 9, 10, 11, 12
Prerequisite Director’s Approval
This class provides a well-rounded learning experience for all participating students. Student will perform many pieces from the standard jazz repertoire, learning and practicing the many facets of jazz improvisation, studying jazz historically and culturally, becoming familiar with key figures in the evolution of jazz, and listening to key recordings of those artists.

SYMPHONIC BAND
Grade 9, 10, 11, 12
Prerequisite Director’s Approval
This class has a tradition of excellence, providing a thorough education in group performance, individual instruction, and music theory. Both Symphonic and Concert Bands perform at all concerts and festivals, giving all students the opportunity to showcase their talents. Enrollment involves participation in marching band, concert band, pep band, ensembles and solo playing. Band members are auditioned and placed into either Symphonic or Concert Band. All students receive private instruction on their instrument and sequential instruction in the elements of music. Students will study both solo and ensemble settings, music theory, music history, reading, and writing music.

GUITAR I, II, III, IV
Grade 9, 10, 11, 12
Prerequisite None
This is an elective course offering beginning instruction for the guitar. You will learn open chords, moveable chords, accompaniment techniques and a variety of playing techniques and styles including both the pickstyle and fingerstyle approaches to the guitar. This is not a lead guitar technique class. The course also includes music fundamentals, theory, songs, performance, listening, analyzing and learning how to read standard music notation and tablature. Students are REQUIRED to provide their own acoustic guitar and have it in class daily. No amplifiers are allowed. Grades are based on performance skill and written tests. Daily participation is also an integral part of the final grade.

MUSIC THEORY/HISTORY
Grade 9, 10, 11, 12
Prerequisite Band or Chorus (AHS, LSHS)
This is a class designed to teach the basics of music theory helping students learn notation, composition, how to analyze music, and many other things which would help a student both in high school and college. It would also touch on music history, helping the students learn about the different time periods in music from Ancient to Modern. The students would learn stylistic differences common to each period and tie it in to analyzing music and writing for those time periods. It uses a variety of teaching methods including multimedia lecture, listening exercises, computer program training, independent work on writing music, etc. Grading is based on class work, quizzes, and daily participation.

BEGINNING CHORUS
Grade 9, 10, 11, 12
Prerequisite None
Beginning Chorus is offered to students who would like to sing for enjoyment while developing their musical knowledge and vocal skills. Emphasis is placed on increasing music reading skills diction, intonation, and vocal technique. Students are REQUIRED to purchase a chorus uniform. Some uniforms are available for rental. Grades are largely based on daily class participation, basic skills tests, class work, and performance participation. Extra credit is available. Attention is given to all the areas that are essential to membership in a music performance.

INTERMEDIATE CHORUS
Grade 9, 10, 11, 12
Prerequisite None
This is a performance based class. It provides opportunities for intermediate-level performers to increase, develop, and refine performance skills and precision vocally. Students are required to attend after school events such as concerts and other performances. Emphasis is placed on increasing music reading skills diction, intonation, and vocal technique. Students are REQUIRED to purchase a chorus uniform. Some uniforms are available for rental. Grades are largely based on daily class participation, basic skills tests, class work, and performance participation. Extra credit is available. Attention is given to all the areas that are essential to membership in a music performance.
ELECTIVES ALL HIGH SCHOOLS EXCEPT NMHS

FINE ARTS

ADVANCED CHORUS
Grade 9, 10, 11, 12
Prerequisite Director’s Approval

This is an advanced level performance based class. It provides opportunities for advanced-level performers to increase, develop, and refine performance skills and precision vocally. Students are required to attend after school events such as concerts and other performances. Emphasis is placed on increasing music reading skills diction, intonation, and vocal technique. Students are REQUIRED to purchase a chorus uniform. Some uniforms are available for rental. Grades are largely based on daily class participation, basic skills tests, class work, and performance participation. Extra credit is available. Attention is given to all the areas that are essential to membership in a music performance.

AP MUSIC THEORY
Grade 11, 12
Prerequisite Band or Chorus

This course is designed to develop musical skills that will lead to a thorough understanding of music composition and music theory. Students are prepared to take the AP Music Theory Exam when they have completed the course. Students planning to major in music in college may be able to enroll in an advanced music theory course, depending on individual colleges’ AP policies.

THEATRE ARTS III (PLAY PRODUCTION)
Grade 10, 11, 12
Prerequisite Theatre Arts II or Technical Theatre

Theatre Arts III is an advanced level class. Theatre is doing! In this course the student will use all of the skills learned in the prerequisite theatre classes to produce a play. The class will require students to not only perform, but assume technical responsibilities as well. Grades will be based upon classwork, quizzes, daily participation, individual performances, group performances, theatre practicum, and the rehearsal/performance process. The students who are in this class will be required to audition to participate in the class production.

ADVANCED PERFORMANCE IN THEATRE
Grade 10, 11, 12
Prerequisite Audition only

This course is designed to be an advanced course in Theater Arts. It includes in depth study of characterization, voice, physicality, scene study, and theater production through performance. Group and individual work will be used to develop acting skills. This is a performance-based course. The students who are in this class will be required to audition to participate in the class production.

TECHNICAL THEATRE
Grade 9, 10, 11, 12
Prerequisite Teacher’s Approval

Technical Theatre is an intermediate level class. In this course the student will learn/apply the basic fundamentals of costume construction, makeup, scene construction, lighting, sound, and the elements of design that follow these principles. Technical Theatre is a hands on course that will require students to dress out in the appropriate work clothes depending on the project. Grades are based on daily work, quizzes, daily participation, individual projects, group projects, and theatre practicum.

VISUAL ARTS/COMPREHENSIVE (VACI)
VISUAL ARTS/COMP I
Grade 9, 10, 11, 12
Prerequisite None

Introduces art history, art criticism, aesthetic judgment and studio production. Emphasizes the ability to understand and use elements and principles of art through a variety of media, processes and visual recourses. Explores masters’ artworks for historical and cultural significance.
FINE ARTS

VISUAL ARTS/COMPREHENSIVE II
Grade 11, 12
Prerequisite Visual Arts I, Drawing I, Painting I, and one 3-Dimensional Course (Ceramics I or Sculpture I)
Enhances skills in art history, art criticism, aesthetic judgment and studio production. Emphasizes and reinforces knowledge and application of elements and principles of art through a variety of media, processes and visual resources. Investigates master artworks to increase awareness and to examine the role of art and the artist in past and contemporary societies. This class is for the advanced self directed student seriously interested in a career in the arts.

VISUAL ARTS/COMPREHENSIVE (VACIII)
VISUAL ARTS/COMP III
Grade 9, 10, 11, 12 (CHHS 12)
Prerequisite Visual Comp I and II
Enhances level-two skills in art history, art criticism, aesthetic judgment and studio production. Provides practice in applying the elements and principles of art through a variety of media, processes and visual resources. Provides focus on different two and three dimensional art media and processes and master artworks. Stresses ideas development through production and creativity through the study of the master artist.

VISUAL ARTS/COMPREHENSIVE (VACIV)
VISUAL ARTS/COMP IV
Grade 11, 12
Prerequisite Visual Comp I, II and III
Enhances level-three skills in art history, art criticism, aesthetic judgment and studio production. Provides opportunity for in-depth application of the elements and principles of art through a variety of media, processes and visual resources. Provides focus on different two and three dimensional art media and processes and master artworks. Stresses creative problem solving through art production and the study of master artists and their works.

VISUAL ARTS/DRAWING I (VADI)
VISUAL ARTS/DRAWING I
Grade 10, 11, 12
Prerequisite Visual Comp I
Explores a variety of drawing techniques and media, emphasizing basic drawing skills and critical analysis skills for responding to master drawings of different historical styles and periods. Examines solutions to drawing problems through student drawings and those of other artists. Covers Western and non-Western cultures.

VISUAL ARTS/DRAWING II (VADII)
VISUAL ARTS/DRAWING II
Grade 10, 11, 12 (CHHS 11, 12)
Prerequisite Visual Comp I and Drawing I
Enhances level-one skills in techniques and provides further exploration of drawing media; reinforces basic drawing skills and critical analysis skills for responding to master drawings of different historical styles and periods. Examines solutions to drawing problems through student drawings and those of other artists.

VISUAL ARTS DRAWING AND PAINTING I
Grade 9, 10, 11, 12 (CHHS 10, 11, 12)
Prerequisite Visual Comp I, Drawing I, and Painting I
Introduces drawing and painting techniques and a variety of drawing and painting media. Stresses critical analysis of master paintings and drawings of different styles and historical periods; emphasizes problem-solving techniques to achieve desired results in personal work.

VISUAL ARTS DRAWING AND PAINTING II
Grade 9, 10, 11, 12 (CHHS 11, 12)
Prerequisite Visual Comp I, Drawing I, and Painting I
Enhances level-one drawing and painting skills and provides opportunities to apply drawing and painting techniques in a variety of media. Stresses critical analysis of master paintings and drawings of different styles and historical periods; emphasizes problem-solving techniques to improve techniques and mastery of materials.

VISUAL ARTS AP STUDIO: GENERAL PORTFOLIO
(VAAPSGP)/ ART/AP ST
Grade 10, 11, 12
Prerequisite Visual Comp I and Any Two Art Courses
Conforms to College Board topics for the Advanced Placement Studio Art Portfolio Examination. Requires submission of original works and slides to be evaluated on quality. Provides opportunity to work in one or more media such as drawing, painting, graphics, photography, animation cells, and sculpture. Designed for students interested in the practical experiences of art.
FINE ARTS

VISUAL ART CERAMICS I
Grade 10, 11, 12
Prerequisite Visual Arts I
Beginning pottery course exploring hand-building techniques. History of clay and art criticism taught in this course.

VISUAL ART CERAMICS II
Grade 10, 11, 12 (CHHS 11, 12)
Prerequisite Ceramics I, Visual Arts I
Advanced pottery course using hand building and wheel throwing techniques to create utilitarian and aesthetic works.

SCULPTURE I
Grade 10, 11, 12 (CHHS 11, 12)
Prerequisite Visual Arts I, and Ceramics I
Beginning sculpture course that explores three-dimensional media such as wire, clay, plaster, woodcarving, assemblage, etc.

SCULPTURE II
Grade 10, 11, 12 (CHHS 12)
Prerequisite Ceramics I, Visual Arts I
Advanced sculpture course using three-dimensional media and producing high quality works of art.

PHOTOGRAPHY I
Prerequisite Visual Art I
This is a beginning photography course exploring the history and development of photography, making pinhole cameras, the basic camera types, basics of darkroom processes and film development. Students work to create a portfolio of photos showing competency in basic photographic processes.

PHOTOGRAPHY II
Prerequisite Visual Art I, and Photography I
This class build on skills acquired in Photography I. Digital Photo editing using Photoshop is introduced. The role of photojournalism and documentary photography as well as photo careers are explored. Students explore different camera types and film formats as well as some alternative and historical photo processes. Students work to develop a portfolio of photographic images stressing excellence and personal vision.

PHOTOGRAPHY III, IV
Prerequisite Visual Art I, Photography I, and Photography II
Students work on a somewhat independent basis to assemble a portfolio of high competency and professionalism. Students may weight the majority of the portfolio toward digital or film based images based on their preference but are expected to be competent in all. The students develop a digital portfolio that can be used in seeking post-secondary opportunities and they do research into cutting edge trends in photography and photojournalism.
The Fine Arts Magnet Education Program at New Manchester High School is a pre-professional Fine Arts program that was founded in 2012 to serve students that demonstrate an advanced level of talent in instrumental music, vocal music, dance, acting, musical theatre, visual art and technical theatre. Its goal is to develop and nurture talented young artists and prepare them for post-secondary collegiate opportunities or successful careers in the fine arts through advanced training. The prospective FAME students’ attendance, academic record, discipline record, and talent potential are considerations for acceptance into the program. Student can only be accepted into one area of study (band, chorus, drama, dance, or visual art), but can take other fine arts classes as elective provided their schedule permits. Junior FAME students are allowed to request to minor in another FAME area. Students study in their major concentration for minimum of two class periods each day. To earn the Fine Arts seal FAME students are required to remain in the program every semester of their high school careers. As long as it does not conflict with their area requirements, FAME students are encouraged to participate in extracurricular performances and opportunities to work with top professionals in the arts from the Atlanta area throughout the United States. Auditions are held each spring for rising freshmen and transfer students seeking admission into the program. The application process is highly competitive, and a number of criteria are considered part of this process.
**BAND**

**INTERMEDIATE BAND I, II, III, IV**
*Grade 9, 10, 11, 12*

**Prerequisite** Beginning Band or Instructor Placement

This course provides opportunities for intermediate-level performers to increase, refine and develop performance and precision skills on a wind or percussion instrument (preferably woodwind). It emphasizes performance and production; may include analysis, historical and cultural influences, improvisation and appreciation of music at intermediate levels of understanding.

**INTERMEDIATE INSTRUMENTAL ENSEMBLE I, II, III, IV**
*Grade 9, 10, 11, 12*

**Prerequisite** Band Member with Percussion Experience/Instructor Placement

This class is for any band member who has prior experience playing percussion instruments in middle school or high school. It would teach the foundations of all instruments in the percussion section and each student would be expected to be able to play mallet instruments, snare rudiments, as well as many other fundamental skills on the various instruments. The students will be playing music for marching band, concert band, and percussion ensemble. Grades are largely based on class participation and playing tests on all percussion instruments.

**ADVANCED BAND I, II, III, IV**
*Grade 9, 10, 11, 12*

**Prerequisite** Instructor Placement

Provides opportunities for advanced-level performers to increase, refine and develop performance skills and precision on a wind or percussion instrument. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music and appreciation of music at advanced levels of understanding. Organizes objectives for self-paced progress through all four levels. Stresses individual progress and learning strategies and ensemble experiences.

**MASTERY BAND I, II, III, IV**
*Grade 10, 11, 12*

**Prerequisite** FAME Students ONLY/ FAME Band Teacher Placement

This course provides opportunities for advanced-level performers to increase, refine and develop performance and precision instrumental skills. It emphasizes performance and production; may include analysis, historical and cultural influences, improvisation and appreciation of music at advanced levels of understanding. Both Mastery Band (Symphonic and Concert Bands) perform at all concerts and festivals, giving all students the opportunity to showcase their talents and will participate in marching band, concert band, pep band, ensembles and solo playing. Students will study both solo and ensemble settings, music theory, music history, reading, and writing music.

**CHORUS**

**BEGINNING CHORUS (ELECTIVE)**
*Grade 9, 10, 11, 12*

**Prerequisite** None

Beginning Chorus is offered to students who would like to sing for enjoyment while developing their musical knowledge and vocal skills. Emphasis is placed on increasing music reading skills, diction, intonation, and vocal technique. Students are REQUIRED to wear approved concert attire for performances. Grades are largely based on daily class participation, basic skills tests, class work, and performance participation. Attention is given to all the areas that are essential to membership in a music performance.

**INTERMEDIATE CHORUS**
*Grade 9, 10, 11, 12*

**Prerequisite** FAME Students ONLY/ FAME Choral Teacher Placement

This is a performance based class. It provides opportunities for intermediate-level FAME performers to increase, develop, and refine performance skills and precision vocally. Students are required to attend all after school events such as concerts and other performances. Emphasis is placed on increasing music reading skills diction, intonation, and vocal technique. Students are REQUIRED to purchase a chorus uniform. Some uniforms are available for rental. Grades are largely based on daily class participation, basic skills tests, class work, and performance participation. Attention is given to all the areas that are essential to membership in a music performance.

**ADVANCED CHORUS**
*Grade 9, 10, 11, 12*

**Prerequisite** FAME Students ONLY/ FAME Choral Teacher Placement

This is an advanced level performance based class. It provides opportunities for advanced-level performers to increase, develop, and refine performance skills and precision vocally. Students are required to attend after school events such as concerts and other performances. Emphasis is placed on increasing music reading skills diction, intonation, and vocal technique. Students are REQUIRED to purchase a chorus uniform. Some uniforms are available for rental. Grades are largely based on daily class participation, basic skills tests, class work, and performance participation. Attention is given to all the areas that are essential to membership.

**MASTERY CHORUS**
*Grade 10, 11, 12*

**Prerequisite** FAME Students ONLY/ FAME Choral Teacher Placement

This is a Mastery level performance based class. It provides opportunities for Mastery-level performers to increase develop and refine performance skills with vocal precision. Students in this class are also required to participate in movement based show choir. Students are required to attend after school events such as concerts and other performances. Emphasis is placed on increasing music reading skills, diction, intonation, and vocal technique. Students are REQUIRED to purchase a chorus uniform. Grades are largely based on Performance participation, class participation, basic skills test, and class work.
MUSICAL TECHNIQUES (Piano) I, II, III, IV
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
Introduces basic piano keyboard techniques for music or musical theatre students. Covers performance and production, analysis and theoretical studies, historical and cultural contributions and influences, creative aspects of music and appreciation of music.

MUSIC THEORY
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
This is a class designed for band, chorus, and musical theatre students. Introduces the fundamentals of organized sound. Emphasizes rules of Western music composition and offers opportunities to create original works. May include using computers for composition. Introduces non-Western approaches to theory and composition.

MUSIC HISTORY
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
This is a class required for band and chorus for students. Introduces musical genres, styles, composers and media in historical context. Includes comparison and contrast of musical style periods from antiquity to the contemporary period, the prominent composers and literature of the period, social and cultural influences, interdisciplinary studies of art, theater, dance, politics, and music of world cultures and indigenous American music. Emphasizes perceptive listening and analysis and speaking and writing about music and musicians.

DANCE

BEGINNING DANCE I
Grade 9, 10, 11, 12
Prerequisite None
Beginning-level technique emphasizing the basic principles of different dance styles including ballet, modern, and jazz. Students will learn basic dance concepts and vocabulary to prepare them for performance. Students are required to attend rehearsals and performances after school.

BALLET I
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
Introduces basic ballet technique at an advanced level; covers placement, turn out, body lines, epaulement, adagio and allegro skills. Stresses aesthetic perception, creative expression and performance, historical and cultural heritage and aesthetic judgment and criticism.

BALLET II
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
Enhances level-one skills; emphasizes the development and execution of elementary technical skills. Offers opportunities to perform and observe quality dance as an art form. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

BALLET III
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Enhances level-two skills; emphasizes intermediate-level technical skills, a further expansion of ballet vocabulary and a broader experience of performance opportunities. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

BALLET IV
Grade 11, 12
Prerequisite FAME Students ONLY
Enhances level-three skills; emphasizes advanced-level technical skills, technique development, artistic growth and individual style. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

BALLET V
Grade 12
Prerequisite FAME Students ONLY
Enhances level-four skills; emphasizes advanced-level technical skills, technique development, artistic growth and individual style. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.
MAGNET FAME PROGRAM

NMHS FINE ARTS

DANCE

JAZZ DANCE I
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
Introduces basic jazz techniques and vocabulary. Emphasizes aesthetic perception, creative expression and performance, historical and cultural heritage and aesthetic judgment and criticism. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

JAZZ DANCE II
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Enhances level-one skills; introduces jazz vocabulary, combinations of jazz technique skills, complex rhythms, longer phrases and specific techniques. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

JAZZ DANCE III
Grade 11, 12
Prerequisite FAME Students ONLY
Enhances level-two skills; emphasizes intermediate-level technical skills, a further expansion of jazz vocabulary and a broader experience of performance opportunities. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

JAZZ DANCE IV
Grade 12
Prerequisite FAME Students ONLY
Enhances level-three skills; emphasizes advanced-level technical skills, further expansion of jazz vocabulary and a broader experience of performance opportunities. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

MODERN DANCE III
Grade 11, 12
Prerequisite FAME Students ONLY
Enhances level-two skills; emphasizes intermediate-level technical skills, a further expansion of modern dance vocabulary, improvisation and a broader experience of performance opportunities. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

MODERN DANCE IV
Grade 12
Prerequisite FAME Students ONLY
Enhances level-three skills; emphasizes advanced-level technical skills, speed and quality of movement, complex combinations, improvisational performance technique, the development of individual style and artistic growth. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

DANCE COMPOSITION
Grade 10, 11, 12
Prerequisite FAME Students ONLY/Instructor placement
Introduces dance composition; covers how to identify and execute the basic principles of composition (i.e., design, improvisation, use of qualities and musical forms). Concentrates on the development of themes and performance of multiple phrase composition. Emphasizes individual creativity and use of choreographic tools. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

DANCE HISTORY
Grade 10, 11, 12
Prerequisite FAME Students ONLY/Instructor placement
Introduces dance history; covers its historical and cultural growth in various societies and the development of dance in Western culture. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.

AFRICAN DANCE
Grade 10, 11, 12
Prerequisite FAME Students ONLY/Instructor placement
Students will explore the basic dance movements and rhythms of West African dance. Through the exploration of traditional dance and songs, students will gain an understanding of the history of movement and its cultural significance. Students will also develop basic sequencing skills and rhythm. Students are required to attend rehearsals and performances after school. A costume rental fee and class uniform are also required.
THEATRE ARTS/FUNDAMENTALS OF DRAMA I (ELECTIVE)
Grade 9, 10, 11, 12
Prerequisite None
Fundamentals I (Elective) is an introductory level class open to any student who has the interest in learning about Drama. Theatre Arts/Fundamentals I serves as prerequisite for other theater/drama courses. Develops and applies performance skills through access to basic vocal, physical and emotional exercises; includes improvisation and scene study and related technical art forms.

THEATRE ARTS/FUNDAMENTALS OF DRAMA II (FA M E)
Grade 9
Prerequisite Audition/Instructor placement
Fundamentals I (FA M E) is an advanced introductory level class specifically for new FA M E drama students. Theatre Arts/ Fundamentals I (FA M E) serves as prerequisite for other FA M E theater/drama courses. Develops and applies performance skills through access to basic vocal, physical and emotional exercises; includes improvisation and scene study and related technical art forms.

THEATRE ARTS/FUNDAMENTALS OF DRAMA III (FA M E)
Grade 10
Prerequisite Audition/Instructor placement
Enhances level-one skills. Continues to develop and apply performance skills through access to intermediate vocal, physical and emotional exercises; includes improvisation and scene study and related technical art forms.

THEATRE ARTS/FUNDAMENTALS OF DRAMA IV (FA M E)
Grade 11
Prerequisite Audition/Instructor placement
Enhances level-two skills by producing and studying literature as related to theater. Provides opportunities for performance with focus on language arts classes. Continues to develop and apply performance skills through access to more advanced vocal, physical and emotional exercises; includes improvisation and scene study and related technical art forms.

THEATRE ARTS/FUNDAMENTALS OF DRAMA IV (FA M E)
Grade 12
Prerequisite Audition/Instructor placement
Enhances level-three skills by producing and writing plays for presentation; explores the role of the playwright. Provides opportunities for practical application. Continues to develop and apply performance skills through access to advanced vocal, physical and emotional exercises; includes improvisation and scene study and related technical art forms.

ACTING I-III (FA M E ACTING CONSERVATORY)
Grade 9, 10, 11, 12
Prerequisite FA M E Acting Conservatory Students ONLY
Introduces advanced acting process. Stresses developing imagination, observation, concentration powers and self-discipline. Includes developing physical and vocal control while transmitting emotions, convictions and ideas; enhances self-confidence and self-awareness. Focuses on scene study.

ADVANCED DRAMA I-IV (FA M E ACTING CONSERVATORY)
Grade 9, 10, 11, 12
Prerequisite FA M E Acting Conservatory Students ONLY
Introduces acting and theater as disciplined art forms; covers methods to observe and understand human behavior and to use those observations to create a character. Includes basic techniques of stage movement and use of physical expression for communication. Enhances vocal techniques and specific patterns for better verbal communication.

MUSICAL THEATER I-V
Grade 9, 10, 11, 12
Prerequisite FA M E Students ONLY
This course introduces and expands on the style and characteristic elements of modern musical theater. Covers production staging, orchestration, voice and dance; offers an opportunity for team teaching through interdisciplinary collaboration with the chorus, band, art, technology, physical education and dance instructors. Offers opportunity for performance.

TECHNICAL THEATRE I-IV
Grade 9, 10, 11, 12
Prerequisite FA M E Students ONLY
Introduces technical considerations of play production; covers properties, lighting and settings, program, box office, marketing, management, make-up and costumes.

THEATRE TECHNOLOGY I-IV
Grade 9, 10, 11, 12
Prerequisite FA M E Students ONLY
Emphasizes theater operation, production management, scenic design, and theatrical management including lighting, sound, stage and house management, building and equipment maintenance, and working with performers and patrons of the arts.

THEATRE ARTS LITERATURE I - 52.08100
Introduces the historical development of theater and the literature of varied cultures and historical periods. Includes exploration of theatre text, character analysis, and evaluation of theatre literature from significant people and in response to significant events.

THEATRE ARTS LITERATURE II - 52.08200
Enhances level-one skills and continues to explore the historical development of theater and the literature of varied cultures and historical periods. Includes exploration of theatre text, character analysis, and evaluation of theatre literature from significant people and in response to significant events.

THEATRE MARKETING
This course is designed to provide participants with knowledge, research, exploration, and analysis to enable them to effectively promote dramatic arts in a variety of settings.
**MAGNET FAME PROGRAM**

**NMHS FINE ARTS**

**VISUAL ARTS**

**ART HISTORY**
Grade 11  
**Prerequisite** FAME Students ONLY  
Introduces art history, art criticism, aesthetic judgment and studio production. Emphasizes the ability to understand and use elements and principles of art through a variety of media, processes and visual recourses. Explores masters’ artworks for historical and cultural significance.

**VISUAL ARTS/COMPREHENSIVE (VACI)**
**VISUAL ARTS/COMP I**
Grade 9, 10, 11, 12  
**Prerequisite** None  
Introduces art history, art criticism, aesthetic judgment and studio production. Emphasizes the ability to understand and use elements and principles of art through a variety of media, processes and visual recourses. Explores masters’ artworks for historical and cultural significance.

**VISUAL ARTS/COMPREHENSIVE (VACII)**
**VISUAL ARTS/COMP II**
Grade 10, 11, 12  
**Prerequisite** Visual Arts I  
Enhances skills in art history, art criticism, aesthetic judgment and studio production. Emphasizes and reinforces knowledge and application of elements and principles of art through a variety of media, processes and visual recourses. Investigates master artworks to increase awareness and to examine the role of art and the artist in past and contemporary societies. This class is for the advanced self-directed student seriously interested in a career in the arts.

**VISUAL ARTS/COMPREHENSIVE (VACIII)**
**VISUAL ARTS/COMP III**
Grade 11, 12  
**Prerequisite** Visual Comp I and II  
Enhances level-two skills in art history, art criticism, aesthetic judgment and studio production. Provides practice in applying the elements and principles of art through a variety of media, processes and visual recourses. Provides focus on different two and three dimensional art media and processes and master artworks. Stresses ideas development through production and creativity through the study of the master artist.

**VISUAL ARTS**

**VISUAL ARTS/COMPREHENSIVE (VACIV)**
**VISUAL ARTS/COMP IV**
Grade 12  
**Prerequisite** Visual Arts I, II and III  
Enhances level-two skills in art history, art criticism, aesthetic judgment and studio production. Provides practice in applying the elements and principles of art through a variety of media, processes and visual recourses. Provides focus on different two and three dimensional art media and processes and master artworks. Stresses ideas development through production and creativity through the study of the master artist.

**VISUAL ARTS/DRAWING I (VADI)**
**VISUAL ARTS/DRAWING I**
Grade 9, 10, 11, 12  
**Prerequisite** FAME Students ONLY  
Explores a variety of drawing techniques and media, emphasizing basic drawing skills and critical analysis skills for responding to master drawings of different historical styles and periods. Examines solutions to drawing problems through student drawings and those of other artists. Covers Western and non-Western cultures.

**VISUAL ARTS/DRAWING II (VADII)**
**VISUAL ARTS/DRAWING II**
Grade 10, 11, 12  
**Prerequisite** FAME Students ONLY  
Enhances level-one skills in techniques and provides further exploration of drawing media; reinforces basic drawing skills and critical analysis skills for responding to master drawings of different historical styles and periods. Examines solutions to drawing problems through student drawings and those of other artists.

**VISUAL ARTS/DRAWING III (VADIII)**
**VISUAL ARTS/DRAWING IV (VADIV)**
Grade 11, 12  
**Prerequisite** FAME Students ONLY  
Enhances skills in art history, art criticism, aesthetic judgment and studio production. Provides opportunities to use two and three-dimensional art media and process in the development of individual portfolios used in job, art school and college applications. Stresses refining of portfolio and production of slides intended for submission for judging. Enhances art-criticism writing skills of both master works and student productions. Provides opportunities for preparing and exhibiting art work.
NMHS FINE ARTS

VISUAL ARTS

VISUAL ARTS PAINTING I
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Introduces drawing and painting techniques and a variety of drawing and painting media. Stresses critical analysis of master paintings and drawings of different styles and historical periods; emphasizes problem-solving techniques to achieve desired results in personal work.

VISUAL ARTS PAINTING II
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Enhances level-one drawing and painting skills and provides opportunities to apply drawing and painting techniques in a variety of media. Stresses critical analysis of master paintings and drawings of different styles and historical periods; emphasizes problem-solving techniques to improve techniques and mastery of materials.

CERAMICS I
Grade 9, 10, 11, 12
Prerequisite FAME Students ONLY
Beginning pottery course exploring hand-building techniques. History of clay and art criticism taught in this course.

CERAMICS II, III, IV
CERAMICS III
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Advanced pottery course using hand building and wheel throwing techniques to create utilitarian and aesthetic works.

SCULPTURE I
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Beginning sculpture course that explores three-dimensional media such as wire, clay, plaster, woodcarving, assemblage, etc.

SCULPTURE II
Grade 10, 11, 12
Prerequisite FAME Students ONLY
Advanced sculpture course using three-dimensional media and producing high quality works of art.

PHOTOGRAPHY

PHOTOGRAPHY I
Prerequisite Teacher Recommendation, Visual Art I
This is a beginning photography course exploring the history and development of photography, making pinhole cameras, the basic camera types, basics of darkroom processes and film development. Students work to create a portfolio of photos showing competency in basic photographic processes.

PHOTOGRAPHY II
Grade 10, 11, 12
Prerequisite FAME Students ONLY
This class build on skills acquired in Photography I. Digital Photo editing using Photoshop is introduced. The role of photojournalism and documentary photography as well as photo careers are explored. Students explore different camera types and film formats as well as some alternative and historical photo processes. Students work to develop a portfolio of photographic images stressing excellence and personal vision.

PHOTOGRAPHY III, IV
Grade 11, 12
Prerequisite Visual Art I, Photography I, and Photography II
Students work on a somewhat independent basis to assemble a portfolio of high competency and professionalism. Students may weigh the majority of the portfolio toward digital or film based images based on their preference but are expected to be competent in all. The students develop a digital portfolio that can be used in seeking post-secondary opportunities and they do research into cutting edge trends in photography and photojournalism.

AP STUDIO: GENERAL PORTFOLIO
(VAAPSGP/V ART/AP ST)
Grade 11, 12
Prerequisite Visual Comp I and Any Two Art Courses
Conforms to College Board topics for the Advanced Placement Studio Art Portfolio Examination. Requires submission of original works and slides to be evaluated on quality. Provides opportunity to work in one or more media such as drawing, painting, graphics, photography, animation cells, and sculpture. Designed for students interested in the practical experiences of art.
The International Baccalaureate Diploma Program (IB) is available only at Douglas County High School. This program is a rigorous, comprehensive program designed for the academically able and highly motivated, self-disciplined student who is successful in all academic areas. Syllabi and examinations incorporate global perspectives. The program is based on the concept that the upper secondary level education should encompass a broad range of subjects accommodating diverse student interests and intentions while adhering to the objectives of a cohesive liberal education. Every student will become proficient in language and mathematics, the two most important tools of communication and analysis. The student will study human behavior and the process of educational inquiry. The IB educational experience will provide the student with a well-rounded, highly academic course of study, emphasizing the development of the total individual.

Participation in the IB Program begins with preparatory IB courses in the 9th grade. The curriculum in the first two years emphasizes higher levels of thinking and critical analysis. Successful completion of the course work and examinations at the junior/senior level may earn college credits and/or advanced placement at colleges and universities around the world.

- Language A – English
- Language B – French or Spanish
- Individuals and Societies – History, Economics or Philosophy
- Experimental Science – Biology, Chemistry or Design Technology
- Mathematics – Algebra II, IB Mathematical Studies Year I, Mathematics Year I, Mathematics Year 2
- 6th Subject Option Choice of Visual Arts, Economics, a second modern language, Philosophy or Design Technology

IN ADDITION, DIPLOMA CANDIDATES MUST:
- Complete a Theory of Knowledge course during their junior and senior years.
- Write an extended research essay
- Participate in creative, activity, and service areas during their junior and senior years.

PROGRAM PARTICIPATION REQUIREMENTS
- Application – fall of 8th grade year
- Recommendations from five 8th grade academic teachers
- Milestones, Math Placement test
- Grades while in 6th, 7th, and 8th grades
- Interview – held in January of 8th grade year

Acceptance letters will be sent in February before beginning 9th grade in fall. The decision of the Selection Committee will be final.
IB ENGLISH

PREPARATORY IB 9TH GRADE BRITISH LITERATURE AND COMPOSITION
Integration of writing, grammar and usage, literature, speaking, listening, and critical thinking skills. Presents the writing process: planning, drafting, revising, editing and proofing; the study of form in personal narratives, descriptions, and expository papers with emphasis on writing. Includes reading a variety of multicultural literature: short stories, novels, tales, poetry, drama, and nonfiction. Emphasizes oral and written response to literature, distinguishing characteristics of various genres, literary elements, and vocabulary study. Summer reading assignments are mandatory.

PREPARATORY IB 10TH GRADE AMERICAN LITERATURE AND COMPOSITION
Offers opportunities to improve reading, writing, speaking/listening, and critical thinking skills through the study of American literature. Includes a variety of literary genres and multicultural writers in a chronological or thematic pattern. Emphasizes developing control in expository writing (thesis support), moving toward precision in personal narrative, descriptive, and persuasive writing. Refines research skills. Integrates grammar, mechanics, and usage into the writing process. Emphasizes oral and written response to literature, distinguishing characteristics of various genres, literary elements, and vocabulary study. Summer reading assignments are mandatory.

IB 11TH AND 12TH LITERATURE (2 YEAR COURSE)
Through the study of a wide range of literature, this course encourages students to appreciate the artistry of literature and to develop an ability to reflect critically on their reading. Works are studied in their literary and cultural contexts, through close study of individual texts and passages, and by considering a range of critical approaches. The study of works in translation is especially important in introducing students, through literature, to other cultural perspectives. The response to the study of literature is through oral and written communication, thus enabling students to develop and refine their command of language.

IB MATHEMATICS

PREPARATORY IB 9TH GRADE ACCELERATED ALGEBRA I/GEOMETRY A
This is the first in a sequence of mathematics courses designed to prepare students to take IB Mathematical Studies or IB Mathematics Standard Level. It includes linear functions, systems of linear equations and inequalities, exponential functions, characteristics/transformation of linear/exponential functions, statistical analysis including regression, geometrical transformations, similarity/congruence, trigonometry, and circle postulates and theorems. Topics are represented in multiple ways, such as concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic methods. Concepts are introduced and used, where appropriate, in the context of real-world applications. Focus is placed on students being able to analyze and apply concepts to open-ended questions. Accelerated covers all of the topics of Coordinate Algebra and half of Analytic Geometry in one year.

PREPARATORY IB 9TH GRADE ALGEBRA I
This is the first in a sequence of mathematics courses designed to prepare students to take IB Mathematical Studies or IB Mathematics Standard Level. It includes linear functions, systems of linear equations and inequalities, exponential functions, characteristics/transformation of linear/exponential functions statistical analysis including regression, geometrical transformations, and select geometrical concepts on the coordinate plane. Topics are represented in multiple ways, such as concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic methods. Concepts are introduced and used, where appropriate, in the context of real-world applications. Focus is placed on students being able to analyze and apply concepts to open-ended questions.
INTERNATIONAL BACCALAUREATE PROGRAM - DCHS ONLY

DCHS IB PROGRAM

IB MATHEMATICS

PREPARATORY IB 10TH GRADE ACCELERATED
GEOMETRY B/ALGEBRA II

This is the second in a sequence of mathematics courses designed to prepare students to take IB Mathematical Studies Year. It includes right triangle trigonometry; exponential, logarithmic, and higher degree polynomial functions; matrices; linear programming; vertex-edge graphs; conic sections; planes and spheres; population means, standard deviations, and normal distributions. Topics are represented in multiple ways, such as concrete/pictorial, verbal/written, numeric/data-based, graphical, and symbolic methods. Concepts are introduced and used, where appropriate, in the context of real-world applications.

IB MATHEMATICS STUDIES

IB Math Studies is a two-year course. This class will introduce the skills needed to cope with the mathematical demands of a technological society with an emphasis on the application of mathematics to real-life, everyday situations. Students will be introduced to basic concepts and techniques associated with the graphing calculator, number sense, algebraic concepts, sets, logic, probability, functions, geometry, trigonometry, financial mathematics, and introductory differential calculus. Advanced Algebra/Algebra II is taught in the senior year.

IB MATHEMATICS SL YEAR 1 AND YEAR 2

IB Math SL is a comprehensive two-year curriculum that allows students to fulfill requirements of various national education systems. IB Math SL consists of the study of six core topics: Numbers and Algebra; Functions and Equations; Circular Functions and Trigonometry; Vector Geometry; Statistics and Probability; and Calculus.

IB SCIENCE

PREPARATORY IB 9TH GRADE PHYSICS

Students in this course will learn basic concepts about matter and energy with emphasis on higher-order thinking skills. They will use appropriate scientific processes and investigative techniques to explore both matter, energy and the laws governing relationships of these in the universe. The objectives are differentiated to allow for more interdisciplinary topics and greater amounts of independent study. Research prepares students for Pre IB Chemistry and IB Biology. Areas covered include, but are not limited to: measurement, mechanics, properties of matter, waves, electricity and magnetism, and atomic and nuclear physics.

PREPARATORY IB 10TH GRADE BIOLOGY

This course explores 5 main areas of biology. They include cell structure and function. Plus the passage of biological traits from generation to generation. The relationship between single-celled and multi-celled organisms and the increasing complexity of systems. The interdependence of organisms and the flow of energy and matter within their ecosystems. Evaluation of the role of natural selection in the development of the theory of evolution. In addition, students will continue to develop the skills needed to succeed in your upper level IB chemistry courses, with emphasis on how to produce the various elements of a lab report.

PREPARATORY IB 10TH GRADE CHEMISTRY

The student will learn facts, formulas, and principles necessary to the essential understanding of the field of chemistry such as atomic structure, periodicity and bonding, nomenclature, compounds and chemical reactions, pH and solutions, characteristics of states of matter, chemical dynamics and equilibrium. Preparatory IB Chemistry will develop critical thinking, problem solving skills, and design lab skills.

IB BIOLOGY SL/HL

IB Biology will enable students to understand, apply and use scientific facts, concepts, and techniques, and present information using scientific terminology. Students will be able to construct, analyze, and evaluate hypotheses, research questions, and predictions. Primary focus will be to comprehend, appreciate, and put into context environmental issues, technological issues, and scientific ethics. Areas covered include, but are not limited to: genetics, ecology, health and physiology, applied plant and animal science, nucleic acids and proteins, cell respiration and photosynthesis. IB Biology is differentiated for accelerated learners through the rate and depth of coverage and the focus of the instructional modes. Emphasis is placed upon learner-centered investigations involving problem-solving, real-world application, and critical thinking about issues of significance on personal, community, state, national, and global levels.
IB SCIENCE

IB CHEMISTRY SL
IB Chemistry is a comprehensive and rigorous curriculum designed to focus on creativity, application, investigation, and communication. Students will be able to construct, analyze, and evaluate hypotheses, research questions, and predictions. Through this two-year course atomic structure, light, periodic table trends, bonding, stoichiometry, energetics, kinetics, equilibrium, acid and base solutions, redox reaction, and organic topics will be studied. An additional option will be explored and is chosen from materials chemistry, human biochemistry, energy, or medicinal chemistry. The students will become critically aware, as global citizens, of the ethical implications of using science and technology. The learners will also develop an appreciation of the possibilities and limitations of science and technology, and develop an understanding of the relationships between scientific disciplines and their influence on other areas of knowledge.

IB DESIGN TECHNOLOGY
DP Design Technology aims to develop internationally-minded people whose enhanced understanding of design and the technological world can facilitate our shared guardianship of the planet and create a better world. It focuses on analysis, design development, synthesis, and evaluation. The creative tension between theory and practice is what characterizes design technology within the DP sciences subject group. Inquiry and problem-solving are at the heart of the subject. DP design technology requires the use of the DP design cycle as a tool, which provides the methodology used to structure the inquiry and analysis of problems, the development of feasible solutions, and the testing and evaluation of the solution. In Diploma Program design technology, a solution can be defined as a model, prototype, product or system that students have developed independently. DP design technology achieves a high level of design literacy by enabling students to develop critical-thinking and design skills, which they can apply in a practical context. While designing may take various forms, it will involve the selective application of knowledge within an ethical framework. A well-planned design program enables students to develop not only practical skills but also strategies for creative and critical thinking. Both science and technology have a fundamental relationship with design. Technology preceded science, but now most technological developments are based on scientific understanding. Traditional technology comprised useful artifacts often with little understanding of the science underpinning their production and use. In contrast, modern technology involves the application of scientific discoveries to produce useful artifacts. The application of scientific discovery to solve a problem enables designers to create new technologies and these new technologies, in turn, can impact on the rate of scientific discovery. The aim of the DP design technology course is to foster the skill development in students required to use new and existing technologies to create new products, services, and systems.

IB SOCIAL STUDIES

PREPARATORY IB 9TH GRADE ECONOMICS
Focuses on the American economic system; covers fundamental economic concepts, personal finance, microeconomics, macroeconomics, and international economic interdependence. Stresses the ability to analyze critically and to make decisions concerning public issues.

PREPARATORY IB 9TH GRADE AMERICAN GOVERNMENT
Focuses on basic concepts and principles of the American political system. Covers the structure and function of the American system of government, the roles and responsibilities of citizen participation in the political process, and the relationship of the individual to the law and legal system. Students examine and critically analyze public issues.

10TH PREPARATORY IB/AP US HISTORY
This course investigates the period of U.S. history from late pre-Columbian times to the present. Stress is placed on building critical reading, thinking, and writing skills through a study of primary and secondary sources that examine the events, individuals, currents, and changes in American history. College Board identifies the following seven specific themes for study: American and national identity, migration and settlement, politics and power, work, exchange, and technology, American in the world, geography and the environment, and culture and society.

11TH GRADE IB HISTORY OF EUROPE YEAR 1
Examines social, political, economic, and cultural elements in Europe from 1066 to 2000. Topics studied include the medieval monarchies of England and France, the Renaissance and Reformation movements, European revolutions, the period of the world wars, and post-war Europe. Significance, continuity and change, perspectives, causation, and consequence are the key elements that guide and inform the examination of each topic. Students will learn to discuss, present, and write in depth about each area of study.
IB SOCIAL STUDIES

12TH GRADE IB HISTORY OF EUROPE YEAR 2

IB World History is a course based on a comparative approach to history. It involves the study of a variety of types of history, including political, economic, social and cultural, and provides a balance of structure and flexibility. The course emphasizes the importance of encouraging students to think historically and to develop historical skills as well as gaining factual knowledge. It puts a premium on developing the skills of critical thinking, and on developing an understanding of multiple interpretations of history. In this way, the course involves a challenging and demanding critical exploration of the past.

IB ECONOMICS SL/HL

The IB Diploma Programme economics course emphasizes the economic theories of microeconomics, which deal with economic variables affecting individuals, firms and markets, and the economic theories of macroeconomics, which deal with economic variables affecting countries, governments and societies. These economic theories are not to be studied in a vacuum—rather, they are to be applied to real-world issues. Prominent among these issues are fluctuations in economic activity, international trade, economic development and environmental sustainability. The ethical dimensions involved in the application of economic theories and policies permeate throughout the economics course as students are required to consider and reflect on human end-goals and values. The economics course encourages students to develop international perspectives, fosters a concern for global issues, and raises students’ awareness of their own responsibilities at a local, national and international level. The course also seeks to develop values and attitudes that will enable students to achieve a degree of personal commitment in trying to resolve these issues, appreciating our shared responsibility as citizens of an increasingly interdependent world.

IB SOCIAL STUDIES

PHILOSOPHY

Philosophy is a systematic critical inquiry into profound, fascinating and challenging questions. These abstract questions arise out of our everyday experiences, and philosophical tools such as critical and systematic thinking, careful analysis, and construction of arguments provide the means of addressing such questions. The practice of philosophy deepens and clarifies our understanding of these questions, as well as our ability to formulate possible responses. The emphasis of the Diploma Programme philosophy course is on “doing philosophy,” that is, on actively engaging students in philosophical activity. The course is focused on stimulating students’ intellectual curiosity and encouraging them to examine both their own perspectives and those of others. Students are challenged to develop their own philosophical voice and to grow into independent thinkers, in addition to engaging with some of the world’s most interesting and influential thinkers. The course also develops highly transferable skills such as the ability to formulate arguments clearly, to make reasoned judgments and to evaluate highly complex and multifaceted issues. All students study a core theme entitled “Being Human”. This theme provides an opportunity to explore the fundamental question of what it is to be human. This exploration takes place through a discussion of key concepts such as identity, freedom, and human nature, and through a consideration of questions such as what sets humans apart from other species, where the boundaries of being human lie, and whether animals or machines could be considered persons. Students also develop their skills through the study of other philosophical themes and the close reading of a philosophical text. They also learn to apply their philosophical knowledge and skills to real-life situations and to explore how non-philosophical material can be treated in a philosophical way. HL students also engage in a deeper exploration of the nature of philosophy itself.
INTERNATIONAL BACCALAUREATE PROGRAM - DCHS ONLY

DCHS IB PROGRAM

IB WORLD LANGUAGE

PREPARATORY IB FRENCH II
This course builds on and expands the skills students acquired in French I class. Students communicate in more detail about a broader range of topics and can ask about, narrate and discuss past, present, and future events and plans. Vocabulary is emphasized as students become familiar with specific situations encountered in the target culture.

PREPARATORY IB FRENCH III
This course extends the skills and content taught in Prep IB French II in order to participate in more complicated situations, to communicate in extended conversations, to respond to authentic print, audio, and visual media, to react to current events and cultural patterns, and to develop organized composition and reporting skills in French. Emphasizes the students’ ability to understand spoken French in various contexts and develop a vocabulary ample for reading a variety of writings, and their ability to express themselves with reasonable fluency and accuracy in both written and spoken French.

IB FRENCH SL/HL
This course develops students’ proficiency in using oral and written language to inquire, narrate, and describe in a variety of tenses and situations. Students summarize and respond to authentic materials and media in the target language. Students read and discuss appropriate literary selections and use oral and written skills to respond to the visual art, music, and drama of the target cultures. Students use extended vocabulary to react to current events and issues present in the target cultures.

FRENCH I/PIB FRENCH II COHORT
First semester students meet daily and meet all expectations for first year world language.
Second semester students continue to meet daily. This course builds on and expands the skills students acquired in French I class. Students communicate in more detail about a broader range of topics and can ask about, narrate and discuss past, present, and future events and plans. Vocabulary is emphasized as students become familiar with specific situations encountered in the target culture.

IB WORLD LANGUAGE

PREPARATORY IB SPANISH II
This course builds on and expands the skills students acquired in Spanish I class. Students communicate in more detail about a broader range of topics and can ask about, narrate and discuss past, present, and future events and plans. Vocabulary is emphasized as students become familiar with specific situations encountered in the target culture.

PREPARATORY IB SPANISH III
This course extends the skills and content taught in Prep IB Spanish II in order to participate in more complicated situations, to communicate in extended conversations, to respond to authentic print, audio, and visual media, to react to current events and cultural patterns, and to develop organized composition and reporting skills in Spanish. Emphasizes the students’ ability to understand spoken Spanish in various contexts and develop a vocabulary ample for reading a variety of writings, and their ability to express themselves with reasonable fluency and accuracy in both written and spoken Spanish.

IB SPANISH SL/HL
This course develops students’ proficiency in using oral and written language to inquire, narrate, and describe in a variety of tenses and situations. Students summarize and respond to authentic materials and media in the target language. Students read and discuss appropriate literary selections and use oral and written skills to respond to the visual art, music, and drama of the target cultures. Students use extended vocabulary to react to current events and issues present in the target cultures.

SPANISH I/PIB SPANISH II COHORT
First semester students meet daily and meet all expectations for first year world language.
Second semester students continue to meet daily. This course builds on and expands the skills students acquired in Spanish I class. Students communicate in more detail about a broader range of topics and can ask about, narrate and discuss past, present, and future events and plans. Vocabulary is emphasized as students become familiar with specific situations encountered in the target culture.
DCHS IB PROGRAM

IB FINE ARTS

IB VISUAL ARTS SL/HL

Incorporates art history and criticism with practical studio work. Provides both cognitive and effective experiences while exploring the relationship between theory and practice. An integrated and inquiring approach will be encouraged as art is studied through a variety of media, processes and visual resources. Students will be encouraged to develop their own perspectives and approaches to the concept of visual art.

IB THEORY OF KNOWLEDGE

IB TOK

A critical component of the IB Program, the TOK course integrates knowledge that students acquire in the curricular areas and includes reflection of acquired knowledge to distinguish the subjective from the objective, the particular from the universal and opinion from scientific knowledge. Students will develop an understanding of the diverse ways of knowing and to consider the role knowledge plays in a global society. Internationalism is central and students will be challenged to question the human nature of knowledge and experience in terms of prejudice, certainty, relativism, and skepticism as they become critical thinkers.
The Science Technology Engineering and Mathematics (STEM) Academy at LSHS was established to provide a challenging learning environment that is a model of innovation and excellence, which maximizes individual potential and ensures students are well-equipped to meet the challenges in the world around them. This program is for academically advanced students who thrive in an environment of rigorous inquiry, interdisciplinary study, and technology-driven instruction. The student’s course of study in either biomedical science, computer science, or engineering is enriched by service learning projects, academic competitions, and internships.

Through continual hands-on labs and activities, STEM students have the opportunity to become proficient on an astonishing array of technology uncommonly found in high schools, including a Stratasys Uprint 3D Printer, Spirit LS Laser Cutter/Engraver, CNC Lathe, and a CNC Mill. They are introduced to robotics through both VEX and Lynx Motion, and have access to a variety of precision software and interfaces, such as Autodesk Inventor, Computer Aided Design (CAD), PASCO, and Vernier, utilized in research universities and designed to emulate the work of industry professionals. Finally, the science department is equipped with all standard technology, in addition to a Biosafety cabinet and fume hood, centrifuges, Nanospectrometer (for proteins and DNA analysis), Autoclave, Incubator, gel electrophoresis apparatus, Evotec equipment (PCR Polymerase Chain Reaction), and a variety of PASCO probeware, temperature software, sensors and interfaces.

The STEM program at LSHS utilizes Project Lead the Way’s (PLTW) specialized curriculum as well as the College Board’s Advanced Placement (AP®) courses to provide students a curriculum that is both rigorous and designed to enhance their STEM endeavors. Successful completion of the course work and examinations at all levels may earn college credits, advanced placement, preferred admission, and/or scholarships at colleges and universities around the world.

Program Pathways
- Biomedical Science
- Computer Science
- Engineering

Diploma Candidates Must
- Receive credit for four advanced level English courses (including two at college-level).
- Receive credit for four advanced Mathematics courses (including one at college-level).
- Receive credit for five advanced Science courses, beyond STEM pathway course requirements (including three at college-level).
- Receive two foreign language credits.
- Complete 128 hours of community service by April of their senior year.
- Participate in a 60 internship or educational experience.
- Compete in a minimum of two academic competitions per year, including the Science and Engineering Fair.
- Satisfactorily participate in annual STEMposium presentations.
- Satisfactorily complete a senior capstone presentation.
- Maintain a 3.0 GPA.
- Receive no failing grades.

Considerations for Program Participation
- Online application – fall of 8th grade year
- Online recommendations from all core academic 8th grade teachers
- Milestone Scores
- Grades while in 6th, 7th, & 8th grades
- Discipline and Attendance Records
- Interview – held in January of 8th grade year
STEM BIOMEDICAL SCIENCE

PLTW PRINCIPLES OF BIOMEDICAL SCIENCE
Honors Forensic Science

This Project Lead the Way (PLTW) course introduces biomedical science through exciting hands-on projects and problems. Students investigate concepts of biology and medicine as they explore a variety of health conditions. The activities and projects in PBS introduce students to human physiology, basic biology, medicine, and research processes and allow students to design experiments to solve problems. Key biological concepts, including maintenance of homeostasis in the body, metabolism, inheritance of traits, and defense against disease are embedded in the curriculum. This course is designed to provide an overview of all the courses in the biomedical science program and lay the scientific foundation for subsequent courses. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

PLTW HUMAN BODY SYSTEMS
Honors Anatomy and Physiology & Essentials of Healthcare Science

In this Project Lead the Way (PLTW) course, students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases, and often play the role of biomedical professionals to solve medical mysteries. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills.

PLTW MEDICAL INTERVENTIONS
Honors Epidemiology

Project Lead the Way's (PLTW) Medical Interventions (MI) allows students to investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease as they follow the lives of a fictitious family. A “How to” manual for maintaining overall health and homeostasis in the body, the course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios, students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Each family case scenario will introduce multiple types of interventions, reinforce concepts learned in the previous two courses, and present new content. Interventions may range from simple diagnostic tests to treatment of complex diseases and disorders. These interventions will be showcased across the generations of the family and will provide a look at the past, present, and future of biomedical science. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important role that scientific thinking and engineering design play in the development of interventions of the future.

PLTW BIOMEDICAL INNOVATIONS
Honors Scientific Research

In this Project Lead the Way (PLTW) capstone course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician’s office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community. In the Biomedical Innovation course, students will be asked to apply what they have learned in the previous three courses to solve unique problems in science, medicine, and healthcare. Students will work systematically through required problems before completing optional directed problems or independent work. Each problem is staged as a mission – a unique set of tasks the students must work through to achieve their desired objective. Students are presented with each problem in a Mission File – a document that includes a case brief, a list of completion tasks, links to available resources, as well as a reflection section. Working through the missions not only exposes students to current issues in biomedical science, but it also provides skills-based instruction in research and experimentation – tools students will use to design innovative solutions to real-world problems. Students will use what they learn in these missions as they develop and implement their independent project at the end of the year. A teacher may use additional resources in the community – the guidance of other teachers in the school, the advice of scientists or biomedical professionals, or the knowledge presented in scientific literature to help students achieve each goal.
PLTW COMPUTER SCIENCE ESSENTIALS
Introduction to Digital Technology

While this Project Lead the Way (PLTW) course is an excellent entry point for new high school computer science (CS) learners, students who have prior CS experiences will also find ample opportunity to expand upon those experiences. All students who take CS Essentials will have many opportunities for creative expression and exploration in topics of personal interest, whether it be through app development, web design, or connecting computing with the physical world. CS Essentials introduces students to coding fundamentals through an approachable, block-based programming language where they will have early success in creating usable apps. As students sharpen their computational thinking skills, they will transition to programming environments that reinforce coding fundamentals by displaying block programming and text based programming side-by-side. Finally, students will learn the power of text-based programming as they are introduced to the Python® programming language. This course engages students in computational thinking practices and collaboration strategies, as well as industry standard tools authentic to how computer science professionals work. Students will learn about professional opportunities in computer science and how computing can be an integral part of all careers today.

PLTW COMPUTER SCIENCE PRINCIPLES
AP Computer Science Principles

This Project Lead the Way (PLTW) course is an implementation of the College Board’s new AP CS Principles framework. Students work in teams to develop computational thinking and solve problems through content that is rigorous, fresh, and exciting. The course does not aim to teach mastery of a single programming language but aims instead to develop computational thinking, to generate excitement about the field of computing, and to introduce computational tools that foster creativity. The course also aims to build students’ awareness of the tremendous demand for computer specialists and for professionals in all fields who have computational skills. Each unit focuses on one or more computationally intensive career paths. The course also aims to engage students to consider issues raised by the present and future societal impact of computing. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Problems aim for ground-level entry with no ceiling so that all students can successfully engage the problems. Students with greater motivation, ability, or background knowledge will be challenged to work further.

PLTW COMPUTER SCIENCE A
AP Computer Science A

This Project Lead the Way (PLTW) course aligns with the College Board’s CS A framework. CSA builds on the basic skills learned in PLTW Computer Science Principles (CSP) to teach students Java and authentic Android™ app development. Students in this course continue to hone their communication and collaboration skills while learning to use a variety of tools. The primary goal of the course is to create independent-thinking app developers: every unit in this course builds on students’ prior knowledge and skills until they are able to complete an app development cycle independently from the ground up. This course is designed to be readily adaptable to student interests and community assets. Individual teachers are encouraged to modify the course content so that it feels as authentic and meaningful within the local context as possible. This course aims to fully develop Object Oriented Programming (OOP) skills that were introduced in CSP and will require consummate engagement with the material for success. As such, augmenting content to keep it fresh and exciting is a priority.

PLTW CYBERSECURITY
Introduction to Cybersecurity & Advanced Cybersecurity
Available Fall 2019

This Project Lead the Way (PLTW) course introduces the tools and concepts of cybersecurity and encourages students to create solutions that allow people to share computing resources while protecting privacy. Nationally, computational resources are vulnerable and frequently attacked; in Cybersecurity, students solve problems by understanding and closing these vulnerabilities. This course raises students’ knowledge of and commitment to ethical computing behavior. It also aims to develop students’ skills as consumers, friends, citizens, and employees who can effectively contribute to communities with a dependable cyber-infrastructure that moves and processes information safely. Completion of this two-credit course will afford students the opportunity to complete a second CTAE CS pathway.
PLTW INTRODUCTION TO ENGINEERING DESIGN
Foundations of Engineering and Technology

Introduction to Engineering Design (IED) is a high school level foundation course in the PLTW Engineering Program. In IED, students are introduced to the engineering profession and a common approach to the solution of engineering problems, an engineering design process. Utilizing the activity project-problem-based (APB) teaching and learning pedagogy, students will progress from completing structured activities to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Through both individual and collaborative team activities, projects, and problems, students will solve problems as they practice common engineering design and development protocols such as project management and peer review. Students will develop skill in technical representation and documentation of design solutions according to accepted technical standards, and they will use current 3D design and modeling software to represent and communicate solutions. In addition, the development of computational methods that are commonly used in engineering problem solving, including statistical analysis and mathematical modeling, are emphasized. Ethical issues related to professional practice and product development are also presented.

PLTW COMPUTER INTEGRATED MANUFACTURING
Engineering Applications

Manufactured items are part of everyday life, yet few people understand the excitement and innovation that is used to transform ideas into products. This Project Lead the Way (PLTW) course provides an opportunity for students to recognize many of the exciting career opportunities in the manufacturing industry. CIM is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products all around us. Students build upon their Computer Aided Design (CAD) experience through the use of Computer Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing systems. Throughout the course, students learn about manufacturing processes and systems. This course culminates with a capstone project where students design, build, program, and present a manufacturing system model capable of creating a product.

PLTW ENGINEERING DESIGN AND DEVELOPMENT
Post-AP Physics

Engineering Design and Development (EDD) is the capstone course in the Project Lead the Way (PLTW) high school engineering program. It is an open-ended engineering research course in which students work in teams to design and develop an original solution to a well-defined and justified open-ended problem by applying an engineering design process. Students will perform research to select, define, and justify a problem. After carefully defining the design requirements and creating multiple solution approaches, teams of students select an approach, create, and test their solution prototype. Student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process.