This Program of Study may serve as a graduation guide for the next four plus years, along with other career planning and educational materials. Courses listed in this model may include recommended coursework and should be individualized to students’ educational and career goals. Each graduation plan needs to meet minimum high school graduation requirements. Dual Enrollment courses can be high school academic and/or career technical education courses.

<table>
<thead>
<tr>
<th>Course/Grade</th>
<th>Ninth</th>
<th>Tenth</th>
<th>Eleventh</th>
<th>Twelfth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>9th grade Lit/Composition</td>
<td>10th grade Lit/Composition</td>
<td>American Lit/Composition</td>
<td>World Lit/Composition /British Lit</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>Coordinate Algebra /Algebra I</td>
<td>Analytic Geometry /Geometry</td>
<td>Advanced Algebra /Algebra II</td>
<td>Pre-calculus</td>
</tr>
<tr>
<td><strong>Science</strong></td>
<td>Physical Science</td>
<td>Biology</td>
<td>Chemistry</td>
<td>AP Physics - Engineering</td>
</tr>
<tr>
<td><strong>Social Studies</strong></td>
<td>Psychology</td>
<td>World History</td>
<td>US History</td>
<td>Government (½ unit) Economics (½ unit)</td>
</tr>
<tr>
<td><strong>Pathway Completer</strong></td>
<td>Introduction to Drafting and Design</td>
<td>Survey Engineering Graphics</td>
<td>3-D Modeling and Analysis</td>
<td>Work-Based Learning, Youth Apprenticeship, or Capstone Project</td>
</tr>
</tbody>
</table>

**Industry Recognized Credential (Pathway Completer)**

**Visit the End of Pathway Assessment Page (see note below)**

### Required/Selective Electives

- Health & Personal Fitness (can be taken in grades 9-12)
- Spanish I
- Physics
- Introduction to Digital Technology

- Modern Language/Latin
  - 2 units required for admissions to Georgia University System Colleges/Universities
  - For a listing of Modern Language/Latin courses offered at your high school, please contact your advisor, counselor, or curriculum handbook.

- Other Electives
  - For a listing of other elective courses offered at your high school, please check with your advisor, counselor, or curriculum handbook.

### Postsecondary

**TCC**

- Drafters Assistant TCC (DA31)
  - MATH 1111
  - DFTG 1101 CAD Fundamentals
  - DFTG 1103 Multiview Basic Dimensions
  - DFTG 105 3D Mechanical Modeling

**Diploma or AAS**

- If the student completes the DA31 TCC leads to DT12 Drafting Technology Diploma and DT13 Drafting Technology AAS.

**Bachelor of Science**

The University System of Georgia offers students’ higher education options at 30 institutions throughout the state, providing a wide range of academic programming including certificates and associate, baccalaureate, masters, doctoral and professional degrees. [https://apps.usg.edu/ords/f?p=118:1:0:::](https://apps.usg.edu/ords/f?p=118:1:0:::)

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**NOTE:** Students have many options to ENTER and EXIT from their academic studies into the workforce. When a student graduates from high school, they are eligible to choose one of many ENTRANCE POINT options: 1. Enroll in either a 2 or 4 year post-secondary program; 2. Enroll in an apprenticeship program or the military; or 3. Enter the workforce using technical skills learned in high school. When a student finishes a 2- or 4-year degree program, they may choose to EXIT and 1. Enroll in an apprenticeship program or the military; 2. Enroll in a professional university degree program; or 3. Enter the workforce using technical skills learned.

### Engineering Drafting and Design Career Pathway Completers - Industry Credentialing for High School Students

Upon completion of sequenced courses in the Engineering Drafting and Design Career Pathway, students are eligible to complete the Industry-Recognized student credential for fulfillment of the End of Pathway Assessment. Secondary students completing the Engineering Drafting and Design pathway will be able to sit for the National Industry Credentialed assessment offered on-line from ADDA, Autodesk, CSWA, NOCTI, and SkillsUSA. Once mastery is reached, students will receive recognition for completion and use this credential in conjunction with their job or continuing training. For specific assessment information, refer to: [http://bit.ly/STEMGA](http://bit.ly/STEMGA)
### Sample High Demand Careers in Georgia

<table>
<thead>
<tr>
<th>Occupation Specialties</th>
<th>Level of Education Needed</th>
<th>Georgia Average Salary</th>
<th>Annual Average Openings in Georgia</th>
<th>2014 – 2024 Employment Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineers</td>
<td>Bachelor’s Degree</td>
<td>$82,653</td>
<td>236</td>
<td>High Demand, High Skill</td>
</tr>
<tr>
<td>Architectural Drafters</td>
<td>Bachelor’s Degree</td>
<td>$51,854</td>
<td>34</td>
<td>High Demand, High Skill</td>
</tr>
<tr>
<td>Electronic Drafters</td>
<td>Associate's Degree</td>
<td>$68,115</td>
<td>11</td>
<td>High Demand, High Skill</td>
</tr>
</tbody>
</table>

#### Engineering Drafting and Design Pathway Description

Engineering Drafting & Design occupations translate ideas from design layouts, specifications, rough sketches, and calculations of engineers and architects into working drawings, maps, plans, and illustrations that are used in making products. They prepare 3D computer models and 2D drawings using computer-aided design and drafting (CADD) and 3D modeling systems. Workers may enjoy new systems such as building information modeling (BIM) and product data management (PDM). They perform design and drafting work in mechanical, electrical/electronic, structural, architectural, civil, piping, and technical illustration fields. They make mathematical calculations related to the above fields using algebra, trigonometry, plane and solid geometry, applied mechanics, strength of materials and basic physics. These occupations usually require working closely with both professional and nonprofessional people. It is essential they have good communication skills.

Degrees are not specifically in the Engineering Drafting and Design area. They are in manufacturing, mechanical, industrial, electrical, engineering, engineering technology, or engineering technician programs.

Employers prefer applicants who have completed postsecondary education in drafting, typically an associate’s degree from a technical institute or community college. Drafters who specialize in architecture and engineering may need a higher degree, such as a bachelor’s degree. Developments in new technology are causing entry-level requirements to rise. An associate’s degree is the typical level of education needed to enter the occupation. In addition, drafters need skills from academic programs so that they may move into the work of designing directly for professionals such as engineers or architects.

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**Postsecondary Transition**

- **High School**
  - Students who will continue their education in a Program of Study at one of the University System of Georgia institutions should prepare to take the ACT or SAT for admissions. Tests for admissions may vary from institution to institution. Contact the selected institution for specific testing information. Additional admissions information can be found at Staying On Course. ([www.usg.edu/assets/student_affairs/documents/Staying_on_Course.pdf](http://www.usg.edu/assets/student_affairs/documents/Staying_on_Course.pdf))
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- **High School**
  - Students who will continue their education in the US Military should take the ASVAB assessment.
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