

# PROGRAM OF STUDY: Electronics



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.

SECONDARY:					POSTSECONDARY:		
COURSE/ GRADE	NINTH	TENTH	ELEVENTH	TWELFTH	TCC	DIPLOMA OR AAS	BACHELOR OF SCIENCE
ENGLISH	9 <sup>th</sup> grade Lit/ Composition	10 <sup>th</sup> grade Lit/ Composition	American Lit/ Composition	World Lit/ Composition / British Lit	<b>Entrance/Exit Point</b>  <b>BE41 Basic Electronics Assembler Certificate</b>  <a href="#">Find the campus for the TCC options</a>	<b>Entrance/Exit Point</b>  If the student completes BE41 he/she could continue to the ET14 Electronics Technology diploma and to the ET13 Electronics Technology AAS.  <a href="#">Find the campus for the Diploma, Degree options</a>	<b>Entrance/Exit Point</b>  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.  <a href="https://apps.ds.usg.edu/ords/f?p=118:1:0:">https://apps.ds.usg.edu/ords/f?p=118:1:0:</a>
MATHEMATICS	Coordinate Algebra / Algebra I	Analytic Geometry / Geometry	Advanced Algebra / Algebra II	Pre-calculus			
SCIENCE	Physical Science	Biology	Chemistry	AP Physics - Engineering			
SOCIAL STUDIES	World History	Psychology	US History	Government (½ unit) Economics (½ unit)			
PATHWAY COMPLETER	<b>Foundations of Electronics</b>	<b>Advanced AC and DC Circuits</b>	<b>Digital Electronics</b>	Another course in focus area, Work-Based Learning, or Youth Apprenticeship			
<b>Industry Recognized Credential (Pathway Completer)</b>		<a href="#">Visit the End of Pathway Assessment Page</a> (see note below)					
<b>Required/ Selective Electives</b>	Health & Personal Fitness (can be taken in grades 9-12)	Introduction to Digital Technology	Physics	Financial Literacy			
	<b>Modern Language/Latin</b> 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.		<b>Other Electives</b> For a listing of other elective courses offered at your high school, please check with your advisor, counselor, or curriculum handbook.				

**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.

**Electronics Career Pathway Completers - Industry Credentialing for High School Students**  
Upon completion of sequenced courses in the Electronics Pathway, students are eligible to complete the Industry-Recognized student credential for fulfillment of the End of Pathway Assessment. Secondary students completing the Electronics pathway will be able to sit for the National Industry Credentialed assessment offered on-line from 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>.

## Sample In Demand Careers in Georgia

Occupation Specialties	Level of Education Needed	Georgia Average Salary	Annual Average Openings in Georgia	2014 – 2024 Employment Outlook
Electronics Engineers	Bachelor's Degree	\$91,908	117	In Demand, High Skill
Photonics Engineers	Bachelor's Degree	\$91,841	53	In Demand, High Skill
Electrical Engineering Technicians	Postsecondary Credentials	\$60,030	124	In Demand, High Skill
Electro-Mechanical Technicians	Associates Degree	\$65,516	38	High Skill, High Wage

[Data link here.](#)

Go to [GAfutures at www.gafutures.org](http://www.gafutures.org) for more information about your education and career planning, including valuable financial information (grants and scholarships including HOPE Program, grants and loans, FAFSA, and CSS forms).

<b>Career Enhancement Opportunities</b>	<b>Career-Related Education Activities</b> <ul style="list-style-type: none"> <li>Career Awareness</li> <li>Career Exploration</li> <li>Instructional Related</li> <li>Connecting                             <ul style="list-style-type: none"> <li>Work-Based Learning</li> <li>Employability Skill Dev.</li> <li>Cooperative Education</li> <li>Internship</li> <li>Youth Apprenticeship</li> <li>Clinicals</li> </ul> </li> </ul>	<b>Postsecondary Options:</b> <ul style="list-style-type: none"> <li>4-Year Universities/ Colleges</li> <li>2-Year Colleges</li> <li>Technical Colleges</li> <li>State Registered Apprenticeships</li> <li>Special Purpose Schools</li> <li>On-the-Job Training</li> <li>Military</li> </ul>	<b>Earning Postsecondary Credits While in High School</b> <ul style="list-style-type: none"> <li>Dual Enrollment Program                             <ul style="list-style-type: none"> <li>Earn postsecondary credit while in high school</li> <li>You can complete                                     <ul style="list-style-type: none"> <li>Industry Credential</li> <li>Technical Certificate of Credit (TCC)</li> <li>Associates of Applied Science Degree   <ul style="list-style-type: none"> <li>Bachelor's Degree</li> </ul> </li> </ul> </li> <li>Who can help?                                     <ul style="list-style-type: none"> <li>Parents</li> <li>School Counselor</li> <li>Advisor</li> </ul> </li> </ul> </li> </ul>
	<b>Postsecondary Transition</b> <ul style="list-style-type: none"> <li>University System of Georgia Institutions: Admissions Testing                             <ul style="list-style-type: none"> <li>ACT or SAT</li> <li>For More Information:                                     <ul style="list-style-type: none"> <li>Contact the institution of your choice OR</li> </ul> </li> </ul> </li> <li>Technical College System of Georgia                             <ul style="list-style-type: none"> <li>Placement Exam</li> </ul> </li> <li>United States Military                             <ul style="list-style-type: none"> <li>ASVAB Assessment</li> </ul> </li> <li>Use BRIDGE Law platform to inform decisions on postsecondary opportunities</li> <li>Dual Enrollment                             <ul style="list-style-type: none"> <li>Earning high school course credits while taking college courses</li> </ul> </li> </ul>		
<b>Related Pathway Occupations</b>		<b>Other Related Occupations</b>	
<ul style="list-style-type: none"> <li>Electrical &amp; Electronic Engineering Technicians</li> <li>Electrical &amp; Electronics Drafters</li> <li>Electrical Engineering Technicians</li> <li>Electrical Drafters</li> <li>Electrical Engineering Technicians</li> <li>Technologists</li> <li>Electro-Mechanical Technicians</li> </ul>		<ul style="list-style-type: none"> <li>Aerospace Engineers</li> <li>Mechanical Engineers</li> <li>Mechanical Technicians</li> <li>Industrial Engineering Technicians</li> </ul>	
*ONET Online			

## Electronics Pathway Description

The electronics industry is a fast-growing industry with job opportunities in many fields, including biomedical engineering, informatics and engineering, software engineering, mechatronics and robotics, electronics and micro-engineering, computer systems engineering, electrical and electronic engineering and information technology, and telecommunications.

Job duties in the electronics industry are varied. A professional engineer may develop concepts and systems, implement, and manage projects, or design and manage production. An electrical or electronic technician may create and test prototypes, manage and maintain systems, install, test, and maintain various types of electrical equipment.

Skills and knowledge required for those in the electronics field include science, technology, engineering and math, languages, speaking and presentation skills, imagination, creativity, problem solving and teamwork skills. The electronics industry offers challenging, interesting, and lifelong careers in a growth industry. The industry also offers excellent salary and working conditions. Occupations will be generated mostly by replacement. Therefore, competition for employment will be keen.

Projected growth is between 2% and 9% from 2014-2024. For example, employment of electrical and electronic engineering technicians is expected to grow 2% from 2014 to 2024, resulting in little or no change for this occupation. Projections for electrical and electronics engineers, with a 4-year degree, increase to 6% from 2014 to 2024, but is still slower than the average for all occupations (percentiles represent national growth). Those who are the most qualified will have the better chance of being hired. The amount of education and training will become a critical factor in the hiring process.