

Peach State Pathways: Program of Study



Student Name _____

Date _____

Student Signature _____

Parent/Guardian Signature _____

This plan of study should serve as a guide, along with other career planning materials, as you continue your education. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. All plans will meet minimum high school graduation requirements as well as minimum college entrance requirements.

Applicants to Board of Regents institutions should be advised that meeting minimum requirements will not guarantee admission at any institution. Institutions may set additional and/or higher requirements.

Course/Grade	Secondary				Entrance or Exit Point	TCSG		Entrance or Exit Point	USG		
	Ninth	Tenth	Eleventh	Twelfth		13th	13th and 14th		13th and 14th	15th and 16th	
Engineering & Technology: Energy Systems											
English	9 th grade Lit/Composition	10 th grade Lit/Composition	American Lit/Composition	AP World Lit/Composition	Dekalb Technical College Certificate -Composition & Rhetoric -Intro to Microcomputers -Sustainable Concepts I	First Quarter -Industry Safety Procedures -Direct Current Circuits I -Soldering Technology -Direct Current Circuits II -College Algebra -Intro to Microcomputers	Second Quarter -Alternating Current I -Alternating Current II -Composition & Rhetoric I -Precalculus	Third Quarter -Solid State Devices II -Linear Integrated Circuits -Introduction to Humanities -Solid State Devices I	Fourth Quarter -Digital Electronics I -Digital Electronics II -Microprocessor Fundamentals -Technical Communication	B.S. in Electrical Eng. Tech. Southern Poly State U. -Composition I -Literature Course -Public Speaking -Pre-Calculus	-Composition II -Humanities/Fine Arts Courses Calculus I
Mathematics	Mathematics I	Mathematics II	Mathematics III	AP Calculus							
Science	Biology	Physical Science	Chemistry	Environmental Science	Second Quarter -Technical Communication or Public Speaking -Sustainable Concepts II	Second Quarter -Alternating Current I -Alternating Current II -Composition & Rhetoric I -Precalculus	Third Quarter -Solid State Devices II -Linear Integrated Circuits -Introduction to Humanities -Solid State Devices I	Fourth Quarter -Digital Electronics I -Digital Electronics II -Microprocessor Fundamentals -Technical Communication	-See Advisor before selecting Science courses -American Context -World History	Science, Technology and Society -Behavioral Science -Cultures & Societies	
Social Studies	World History	World History	US History	Government (½ unit) Economics (½ unit)							
Required Electives	Foundations of Engineering and Technology	Energy and Power Technology	Appropriate and Alternative Energy Technologies	Health & Personal Fitness (can be taken in grades 9-12)	Third Quarter -Sustainable Energy Production Technology -Sustainable Building Technologies -Communications for Sustainable Building Environments	Second Quarter -Alternating Current I -Alternating Current II -Composition & Rhetoric I -Precalculus	Third Quarter -Solid State Devices II -Linear Integrated Circuits -Introduction to Humanities -Solid State Devices I	Fourth Quarter -Digital Electronics I -Digital Electronics II -Microprocessor Fundamentals -Technical Communication	-Survey of Engineering Graphics -Technical Writing -Calculus II	-Principles of Chemistry I -Ordinary Differential Equations	
Selective Electives	Foundations of Electronics	Entrepreneurship or Modern Language	CADD Solid Modeling or Modern Language	Energy Systems Internship or Work-Based Learning							
Modern Language Pathway											
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 check with 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.											

In a POS, students have many options to **ENTER** and **EXIT** from their academic studies or 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. 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. **Jobs available after High School:** Assemblers and Fabricators, Machine Operators, Servicer and Tenders, Computer-Controlled Machine Tool Operator (\$22,000 to \$36,000 a year), **Jobs available after Technical College:** Electronics Engineering Technician, Environmental Engineering Technician, Nuclear Technicians (\$34,000 to \$63,000) **Jobs available after University degree:** Electrical Engineer, Mechanical Engineer, Chemical Engineer (\$69,000 to \$100,000).

The following link will list Board of Regents institutions offering degrees in **Energy Systems**. In the first box titled "Major," type "Electrical Engineering," "Renewable Resources," or "Environmental Engineering." Then click the button at the bottom "View Matching Campuses" for a list. It will not be necessary to fill in all the other boxes. Further research will be required for specific programs of study that align with the pathway. www.gacollege11.org/SelectMatchMatch.asp

ENERGY SYSTEMS

Energy is a diverse field with many job opportunities. There are many people who help generate energy, transport it and connect it to the things we use everyday. There are also those creating new methods of energy generation. Working in energy can mean working for utilities, for gas and oil companies, for government and research groups, for energy education or environmental regulation agencies, for nonprofit energy awareness and conservation organizations or for many other energy related agencies.

Most of the electricity produced in the United States comes from non-renewable sources such as coal, petroleum and natural gas. Related jobs include power plant operators, power distributors and dispatchers, industrial machinery mechanics, reactor operators and engineers.

Renewable power generation, from sources such as wind, water, solar and biomass, are becoming more common. Research and development in this area is ongoing, but the job opportunities in renewable energy will increase through 2014.

Employment opportunities in the entire energy industry should be excellent through 2014. Jobs in the energy field require varying levels of education, from work experience to college and advanced degrees.

For more information, visit the following websites:

www.careervoynages.gov
www.electrifyingcareers.com
www.GAcollege411.org
www.doi.state.ga.us

Go to GACollege411 at www.GACollege411.org for more information about your education and career planning, including valuable financial information (grants and scholarships including HOPE Program, loans, FAFSA and CSS forms).

Current GEORGIA Graduation Rule for student entering the 9 th grade in fall of 2008-2009	Credits	Postsecondary Programs of Study Technical College	Postsecondary Programs of Study University of Georgia System
I. English/Language Arts	4	<p>Select the following link for a list of Technical College System of Georgia (TCSSG) institutions offering programs in Energy Systems. Each technical college varies in the specific degrees (AAS), diplomas, and certificates offered.</p> <p>https://kms.dtae.org/portal/tcsg/tcsgProgramOfferings.aspx</p> <p>Step 1: Use the drop-down box to select the term you plan to enter a TCSSG institution.</p> <p>Step 2: From the Specific Program drop-down box select Electrical/Electronics Technology, Electrical Construction & Maintenance, Electrical Control Systems, or Electrical Utility Technology</p> <p>You can then view a list of TCSSG institutions that offer this program as well as the specific campus and awards (degree, diploma, or certificate) offered.</p>	<p>The following link will list Board of Regents institutions offering degrees in Energy Systems. In the first box titled "Major," type "Electrical Engineering," "Renewable Resources," or "Environmental Engineering." Then click the button at the bottom "View Matching Campuses" for a list. It will not be necessary to fill in all the other boxes. Further research will be required for specific programs of study that align with the pathway.</p> <p>http://www.gacollege411.org/Select/MatchAssIddefault.asp</p>
II. Math	4		
III. *Science	4		
IV. Social Studies	3		
V. **Career, Technical and Agricultural Education (CTAE), and/or Modern Language/Latin, and/or Fine Arts	3		
VI. Health & Physical Education	1		
VII. Electives (4 units)	4		
TOTAL UNITS	23		
<p>* 4th Science may be used to meet both the required science and required elective in CTAE sequence of courses (V) **Student must complete 3 units in a pathway to complete CTAE pathway and take end of pathway assessment. Student must complete 2 years of the same Modern Language/Latin for admission to Georgia Board of Regents colleges/universities.</p>			
<p>The sample ENERGY SYSTEMS PATHWAY occupations listed below meet two out of three of GDOE definitions for high-demand, high-wage and high-skilled. www.occsupplydemand.org</p>			
Occupation Specialties	Level of Education Needed	Average Salary	Annual Average Openings in Georgia
Environmental Engineering Technician	Associate Degree	\$34,112	40
Electrical Engineer	Bachelor Degree	\$74,547	110
Environmental Engineer	Bachelor Degree	\$65,749	50
Nuclear Engineer	Bachelor Degree	\$103,272	10
Electrical Power-Line Installer & Repairer	Long-Term On-the-Job Training	\$44,304	230