

Peach State Pathways: Program of Study



Engineering & Technology

Learner Name _____

Date _____

Learner Signature _____

Advisor/Counselor 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.

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|--|---|--|---|---|--|---|---|
| High School Education and Career Plan Graduation Rule for 9 grade students enrolling 2008-2009 | I. English Language Arts (4 units) | II. Mathematics (4 units) | III. Science (4 units) | IV. Social Studies (3 units) | V. Required Electives (3 units) and Other Electives (4 units) CTAE and/or Modern Language/Latin and/or Fine Arts | VI. Health & Physical Edu (1 unit) | |
| | English 9 English 10 English 11 English 12 AP Lit and Comp AP Lang and Comp IB English SL (Am Lit) IB English HL (World Lit) | Math 1 Math 2 Math 3 Math 4 OR Accelerated Math 1 Accelerated Math 2 Accelerated Math 3 | Biology Physical Science OR Physics Chemistry OR Environmental Science OR Earth Systems OR an AP/IB course | Am Gov/Civics (1/2 unit) World History US History Economics (1/2 unit) | Career Pathway Sequence of Courses: 21.42500 Foundations of Engineering and Technology 21.47100 Engineering Concepts 21.47200 Engineering Applications | | Health & Personal Fitness |
| | Sample Additional English Courses: Literary Types/Composition Oral/Written Communication | Sample Additional Math Courses: TBA | Sample Additional Science Courses: Microbiology Environmental Science AP Environmental Sci Aviation Meteorology Astrophysics | Sample Additional Social Studies Courses: Current Issues The Humanities Technology and Society Sociology AP Macroeconomics AP Microeconomics | 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 check with your advisor, counselor, or curriculum handbook. | | Sample Additional Health & PE courses: Team Sports Rec Games Aerobics |
| | | | | | Fine Arts Visual Arts Performing Arts For a listing of Fine Arts courses offered at your high school, please check with your advisor, counselor or curriculum handbook. | | |
| | | | | VII. Other Electives | | | |
| | | | | For a listing of other elective courses offered at your high school, please check with your advisor, counselor, or curriculum handbook. | | | |
| Career Enhancement Opportunities | Career-Related Education Activities | | Postsecondary Options: | | Possible postsecondary credit opportunities may include: | | |
| <input type="checkbox"/> Career Awareness <input type="checkbox"/> Career Exploration <input type="checkbox"/> Instructional Related <input type="checkbox"/> Connecting <input type="checkbox"/> Work-Based Learning <ul style="list-style-type: none"> • Employability Skill Dev. • Cooperative Education • Internship • Youth Apprenticeship • Clinicals | <ul style="list-style-type: none"> • 4-Year Universities/Colleges • 2-Year Colleges • Technical Colleges • State Registered Apprenticeships • Special Purpose Schools • On-the-Job Training • Military | | <ul style="list-style-type: none"> • *Advanced Placement • *Articulated Credit (Technical Colleges) • *Dual Enrollment/ACCEL (Degree Programs) • *Dual Enrollment/HOPE (Certificate and Diplomas) • Joint Enrollment (postsecondary credit only) | | *Postsecondary credit opportunities allow high school students to earn both college and high school credit simultaneously while in high school. Check with your counselor/advisor and Education and Career Partnership program manager for more information regarding these opportunities and others, such as Early College which serves both middle and high school students. | | |

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, and FAFSA and CSS forms).

| Current GEORGIA Graduation Rule for student entering the 9 th grade in fall of 2008-2009 Areas of Study: | 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 (TCSG) institutions offering programs in Engineering. 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 TCSG institution;</p> <p>Step 2: From the Specific Program drop-down box select Electrical/Computer Engineering Technology, Electronics Technology, Electromechanical Engineering Technology, or Industrial Electrical and Electronics Technology.</p> <p>You can then view a list of TCSG 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 Engineering. In the first box titled "Major," type "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/MatchAsst/default.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)</p> <p>**Student <u>must</u> complete 3 units in a pathway to complete CTAE pathway and take end of pathway assessment. Student <u>must</u> complete 2 years of the same Modern Language/Latin for admission to Georgia Board of Regents colleges/universities.</p> | | | |

The sample **ENGINEERING PATHWAY** occupations listed below meet two out of three of GDOE definitions for high-demand, high-wage and high-skilled. www.occsupplydemand.org

| Occupation Specialties | Level of Education Needed | Average Salary | Annual Average Openings in Georgia |
|--|---------------------------|----------------|------------------------------------|
| Civil Engineer | Bachelor Degree | \$69,846 | 200 |
| Civil Engineering Technician | Associate Degree | \$37,586 | 100 |
| Electrical Engineer | Bachelor Degree | \$74,547 | 110 |
| Industrial Engineer | Bachelor Degree | \$67,600 | 210 |
| Electrical and Electronic Engineering Technician | Associate Degree | \$49,691 | 170 |

ENGINEERING

Today's professionals in the engineering and technology field continue to revolutionize the way we live. They design, produce, operate, and maintain a variety of equipment and services we use in our everyday lives. The rapidly changing engineering and technology field requires a broad educational background and a lifelong commitment to learning new and specialized information.

Overall job opportunities in engineering and technology are expected to be good, but will vary by specialty. Technology and technology-related employment will continue to increase as technology changes and new technology is invented.

Engineers may work in design and development, testing, production or maintenance. Almost all entry-level engineering jobs require at least a bachelor's degree, and most engineers specialize in a certain field. Those interested in an occupation in the engineering field should be creative, inquisitive, analytical and detail-oriented. They should also have excellent communication skills because working as part of a team and working with others outside the engineering field is often required. Engineering is considered a nontraditional field for women; therefore, it is important that female students investigate different engineering opportunities where salaries are higher than in many traditional occupations for females.

For more information, visit the following websites:
 The Institute of Electrical and Electronics Engineers – www.ieeeusa.org
 The American Society of Civil Engineers – www.asce.org
 The Institute of Industrial Engineers – www.iienet.org
 The American Society of Mechanical Engineers – www.asme.org
 Society of Manufacturing Engineers – www.sme.org
www.GACollege411.org
www.dol.state.ga.us