

# Peach State Pathways: Program of Study



## Engineering & Technology

Learner Name \_\_\_\_\_  
 Learner Signature \_\_\_\_\_  
 Parent/Guardian Signature \_\_\_\_\_

Date \_\_\_\_\_  
 Advisor/Counselor 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.*

|  |   |  |   |  |  |   |
|--|---|--|---|--|--|---|
| <b>High School Education and Career Planning</b><br>Graduation Rules for 9 <sup>th</sup> grade enrolling 2008-2009   | <b>I. English Language Arts (4 units)</b>   | <b>II. Mathematics (4 units)</b>   | <b>III. Science (4 units)</b>   | <b>IV. Social Studies (3 units)</b>  | <b>V. Required Electives (3 units)</b><br>CTAE and/or Modern Language/Latin and/or Fine Arts   | <b>VI. Health &amp; Physical Edu (1 unit)</b>   |
|  | English 9<br>English 10<br>English 11<br>English 12<br><br>AP Lit and Comp<br>AP Lang and Comp<br>IB English SL (Am Lit)<br>IB English HL (World Lit)   | Math 1<br>Math 2<br>Math 3<br>Math 4<br>OR<br>Accelerated Math 1<br>Accelerated Math 2<br>Accelerated Math 3                                   | Biology<br>Physical Science OR<br>Physics<br>Chemistry OR<br>Environmental Science<br>OR Earth Systems OR<br>an AP/IB course  | Am Gov/Civics (1/2 unit)<br>World History<br>US History<br>Economics (1/2 unit)  | <p style="text-align: center;"><b>Career Pathway Sequence of Courses:</b></p> 21.44100 Foundations of Manufacturing and Materials Science<br>21.44500 Robotics & Automated Systems<br>21.44400 Production Enterprises<br><br><p style="text-align: center;"><b>CAREER PATHWAY RELATED COURSES:</b></p> 21.45800 Manufacturing Internship | Health & Personal Fitness   |
| <p style="text-align: center;"><u>Sample Additional English Courses:</u></p> Literary Types/Composition<br>Oral/Written Communication  | <p style="text-align: center;"><u>Sample Additional Math Courses:</u></p> TBA   | <p style="text-align: center;"><u>Sample Additional Science Courses:</u></p> Microbiology<br>Environmental Science<br>AP Environmental Science | <p style="text-align: center;"><u>Sample Additional Social Studies Courses:</u></p> Current Issues<br>The Humanities<br>Technology and Society<br>Psychology<br>Sociology   | <p style="text-align: center;"><b>Modern Language/Latin</b></p> 2 units required for admissions to Georgia University System Colleges/Universities<br>For a listing of Modern Language/Latin courses offered at your high school, please check with your advisor, counselor, or curriculum handbook. | <p style="text-align: center;"><b>Fine Arts</b></p> Visual Arts<br>Performing Arts<br><br>For a listing of Fine Arts courses offered at your high school, please check with your advisor, counselor or curriculum handbook.  | <p style="text-align: center;"><u>Sample Additional Health &amp; PE courses:</u></p> Team Sports<br>Rec Games<br>Aerobics |
| <b>Career-Related Education Activities</b>   | <b>Postsecondary Options:</b>   |  | <b>VII. Other Electives (4 units)</b>   |  |  |   |
| <input type="checkbox"/> Career Awareness<br><input type="checkbox"/> Career Exploration<br><input type="checkbox"/> Instructional Related<br><input type="checkbox"/> Connecting<br><input type="checkbox"/> Work-Based Learning <ul style="list-style-type: none"> <li>• Employability Skill Dev.</li> <li>• Cooperative Education</li> <li>• Internship</li> <li>• Youth Apprenticeship</li> <li>• Clinicals</li> </ul> | <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> |  | <p><b>Possible postsecondary credit opportunities may include:</b></p> <ul style="list-style-type: none"> <li>▪ *Advanced Placement</li> <li>▪ *Articulated Credit (Technical Colleges)</li> <li>▪ *Dual Enrollment/ACCEL (Degree Programs)</li> <li>▪ *Dual Enrollment/HOPE (Certificate and Diplomas)</li> <li>▪ Joint Enrollment (postsecondary credit only)</li> </ul> <p><small>*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.</small></p> |  |  |   |

Go to GACollege411 at [www.GACollege411.org](http://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 <sup>th</sup> grade in fall of 2008-2009<br>Areas of Study:  | Credits   | Postsecondary Programs of Study<br>Technical College  | Postsecondary Programs of Study<br>University of Georgia System   |
|---|-----------|---|---|
| I. English/Language Arts  | 4         | Select the following link for a list of Technical College System of Georgia (TCSG) institutions offering programs in <b>Manufacturing</b> . Each technical college varies in the specific degrees (AAS), diplomas, and certificates offered.<br><br><a href="https://kms.dtae.org/portal/tcsg/TC SGProgramOfferings.aspx">https://kms.dtae.org/portal/tcsg/TC SGProgramOfferings.aspx</a><br><br><b>Step 1:</b> Use the drop-down box to select the term you plan to enter a TCSG institution;<br><br><b>Step 2:</b> From the Specific Program drop-down box select <b>Industrial Electronics Technology, Industrial Maintenance Technology, Industrial Safety Technology, or Industrial Systems Technology</b> .<br><br>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. | The following link will list Board of Regents institutions offering degrees in <b>Manufacturing</b> . In the first box titled "Major," type "Industrial Design," "Industrial Engineering," and/or "Industrial Management." 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.<br><br><a href="http://www.gacollege411.org/Select/MatchAsst/default.asp">http://www.gacollege411.org/Select/MatchAsst/default.asp</a> |
| 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         |   |   |
| <b>TOTAL UNITS</b>  | <b>23</b> |   |   |
| * 4 <sup>th</sup> Science may be used to meet both the required science and required elective in CTAE sequence of courses (V)<br>**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. |           |   |   |

## MANUFACTURING

Manufacturers produce numerous products in daily demand by customers. People employed in manufacturing deal with such areas as planning, managing and performing the processing of materials into intermediate or final products. They also deal with related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.

Manufacturing employers face recruitment difficulties because many students do not consider manufacturing careers. Manufacturing has had an unfavorable image of dangerous, assembly line jobs in unsanitary environments. With the advances in technology and robotics, there are fewer production positions available, but there are more job opportunities requiring advanced technical skills and higher levels of education. Employers want workers with good communication and problem solving skills since new manufacturing processes, such as lean manufacturing, require workers to be able to perform many different tasks depending on where they are most needed.

There are a variety of job opportunities in manufacturing. Design includes companies that provide engineering services, specialized design and management/technical consulting. Production includes companies that directly produce a good, and logistics includes freight, warehousing and delivery companies that move goods from producers to customers and end users.

For more information, visit the following websites:  
 National Association of Manufacturers –  
[www.nam.org](http://www.nam.org)  
[www.GACollege411.org](http://www.GACollege411.org)  
[www.dol.state.ga.us](http://www.dol.state.ga.us)  
[www.careervoyages.gov](http://www.careervoyages.gov)

The sample MANUFACTURING PATHWAY occupations listed below meet two out of three of GDOE definitions for high-demand, high-wage and high-skilled. [www.occsupplydemand.org](http://www.occsupplydemand.org)

| Occupation Specialties            | Level of Education Needed             | Average Salary | Annual Average Openings in Georgia |
|-----------------------------------|---------------------------------------|----------------|------------------------------------|
| Industrial Engineer               | Bachelor Degree                       | \$67,600       | 210                                |
| Industrial Engineering Technician | Associate Degree                      | \$49,546       | 60                                 |
| Logistician                       | Bachelor Degree                       | \$58,822       | 70                                 |
| Industrial Production Manager     | Work Experience in Related Occupation | \$78,333       | 160                                |
| Team Assemblers                   | Moderate-Term On-the-Job Training     | \$24,731       | 1,800                              |