This Program of Study Template can serve as a guide, along with other career planning materials, as you continue your career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner’s educational and career goals. **Ask your high school counselor to help you fill in the required courses you need to graduate.**

<table>
<thead>
<tr>
<th>Grade</th>
<th>English 8 semesters</th>
<th>Math 6 semesters</th>
<th>Science 6 semesters</th>
<th>Social Studies 6 semesters</th>
<th>Other Required Courses, Recommended Electives</th>
<th>Career &amp; Technical Courses and/or Degree Major Courses</th>
<th>SAMPLE Occupations Relating to this Pathway</th>
</tr>
</thead>
</table>
| 9     | Comm Arts I         | High School Math Course | High School Science Course | High School S.S. Course | Personal Finance  
Computer Science  
Math Courses  
Physical Sciences  
See high school counselor for additional options | See high school counselor for additional options | Aerospace Engineer  
Agricultural Engineer  
Analytical Chemist  
Anthropologist  
Architectural Engineer  
Astrophysicist  
Biomedical Engineer  
CAD Technician  
Civil Engineer  
Computer Programmer  
Ecologist  
Geologist  
Geothermal Engineer  
Math Teacher  
Mathematician  
Metallurgist  
Statistician  
Survey Technician  
Zoologist |
| 10    | Comm Arts II        | High School Math Course | High School Science Course | High School S.S. Course | Personal Finance  
Computer Science  
Math Courses  
Physical Sciences  
See high school counselor for additional options | See high school counselor for additional options | |
| 11    | Comm Arts III       | High School Math Course, Pre-Algebra  
*College Algebra  
*College Trig  
*College Calculus | High School Science Course | High School S.S. Course | *Personal Finance  
*College Am. History I & II  
*College Political Systems | *See high school counselor for additional college course offerings  
Farmington High School PLTW Classes  
Calc I, II &III  
Differential Equations  
Physics  
Gen Chem I  
(Available for Dual Enrollment) | |
| 12    | Senior Comm Arts & Comm Arts elective  
*English Comp II  
*Intro to Literature | High School Math Course, Pre-College Algebra,  
*College Algebra,  
*College Trig  
*College Calculus | High School Science Course  
*MFH College Intro to Chemistry – Potosi Hub | High School S.S. Course | *Personal Finance  
*College Am.  
History I & II  
*College Political Systems | *See high school counselor for additional college course offerings  
Farmington High School PLTW Classes  
Calc I, II &III  
Differential Equations  
Physics  
Gen Chem I  
(Available for Dual Enrollment) | |

*Dual Credit courses can often be substituted for high school credit. Check with your Counselor.  
*Dual Enrollment courses can be taken online or on a MAC campus.  
Assessments/Certifications: College Placement Assessments, Compass, ACT, SAT  
Clubs/Extracurricular Activities: Ask your Counselor what is available at your school.  
CTSO(s):  
□ TSA  
□ FBLA  
□ Skills USA  
Work-Based Learning:  
□ After School Employment  
□ Internship/Mentorship  
□ Job Shadowing  
□ Service Learning  
□ Supervised Business Experience
<table>
<thead>
<tr>
<th>Aerospace Engineer</th>
<th>Analytical Chemist</th>
<th>Materials Engineer</th>
<th>Materials Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeronautical Engineer</td>
<td>Anthropologist</td>
<td>Materials Lab &amp; Supply Technician</td>
<td>Materials Scientists</td>
</tr>
<tr>
<td>Agricultural Engineer</td>
<td>Applied Mathematician</td>
<td>Mechanical Engineer</td>
<td>Mathematician</td>
</tr>
<tr>
<td>Agricultural Technician</td>
<td>Archeologist</td>
<td>Metallurgic Engineer</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Application Engineer</td>
<td>Astronomer</td>
<td>Mining Engineer</td>
<td>Metallurgist</td>
</tr>
<tr>
<td>Architectural Engineer</td>
<td>Astrophysicist</td>
<td>Naval Engineer</td>
<td>Meteorologist</td>
</tr>
<tr>
<td>Automotive Engineer</td>
<td>Botanist</td>
<td>Network Technician</td>
<td>Microbial Physiologist</td>
</tr>
<tr>
<td>Biomedical Engineer</td>
<td>CAD Operator</td>
<td>Nuclear Engineer</td>
<td>Mycologist</td>
</tr>
<tr>
<td>Biotechnology Engineer</td>
<td>Cartographer</td>
<td>Ocean Engineer</td>
<td>Nanobiologist</td>
</tr>
<tr>
<td>Chemical Engineer</td>
<td>Chemist</td>
<td>Operations Research Engineer</td>
<td>Nuclear Chemists</td>
</tr>
<tr>
<td>Civil Engineer</td>
<td>Communications Technologist</td>
<td>Packaging Engineer</td>
<td>Nuclear Technician</td>
</tr>
<tr>
<td>Communications Engineer</td>
<td>Conservation Scientist</td>
<td>Packaging Technician</td>
<td>Numerical Analyst</td>
</tr>
<tr>
<td>Computer Engineer</td>
<td>Cosmoastologist</td>
<td>Petroleum Engineer</td>
<td>Nutritionist</td>
</tr>
<tr>
<td>Computer Hardware Engineer</td>
<td>Cryptographer</td>
<td>Plastic Engineer</td>
<td>Oceanographer</td>
</tr>
<tr>
<td>Computer Programmer</td>
<td>Cryotographer Crystallographer</td>
<td>Power Systems Engineer</td>
<td>Organic Chemist</td>
</tr>
<tr>
<td>Computer Science Technician</td>
<td>Demographer</td>
<td>Product Design Engineer</td>
<td>Ornithologist</td>
</tr>
<tr>
<td>Computer Software Engineer</td>
<td>Dye Chemist</td>
<td>Project Engineer</td>
<td>Paleontologist</td>
</tr>
<tr>
<td>Construction Engineer</td>
<td>Economist</td>
<td>Project Manager</td>
<td>Physicist</td>
</tr>
<tr>
<td>Consultant</td>
<td>Electrician</td>
<td>Quality Engineer</td>
<td>Polymer Scientist</td>
</tr>
<tr>
<td>Development Engineer</td>
<td>Electrical Engineer</td>
<td>Quality Technician</td>
<td>Programmer</td>
</tr>
<tr>
<td>Draper</td>
<td>Electronics Engineer</td>
<td>Radio/TV Broadcast Technician</td>
<td>Protein Scientist</td>
</tr>
<tr>
<td>Electrical Engineer</td>
<td>Energy Transmission Engineer</td>
<td>Radiology Engineer</td>
<td>Protozoologist</td>
</tr>
<tr>
<td>Environmental Engineer</td>
<td>Environmental Scientist</td>
<td>Research Chemist</td>
<td>Quality-Control Scientist</td>
</tr>
<tr>
<td>Facilities Technician</td>
<td>Expert Systems Scientist</td>
<td>Research Technician</td>
<td>Radio Chemist</td>
</tr>
<tr>
<td>Fire Protection Engineer</td>
<td>Geneticist</td>
<td>Science Teacher</td>
<td>Research Chemist</td>
</tr>
<tr>
<td>Geothermal Engineer</td>
<td>Geologist</td>
<td>Lab Technician</td>
<td>Research Technician</td>
</tr>
<tr>
<td>Hazardous Waste Engineer</td>
<td>Geophysicist</td>
<td>Scientific Teacher</td>
<td>Science Teacher</td>
</tr>
<tr>
<td>Hazardous Waste Technician</td>
<td>Geoscientist</td>
<td>Lab Technician</td>
<td>Lab Technician</td>
</tr>
<tr>
<td>Human Factors Engineer</td>
<td>Herpetologist</td>
<td>Scientific Visualization/Graphics Expert</td>
<td>Scientific Visualization/Graphics Expert</td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>Hydrologist</td>
<td>Statistician</td>
<td>Spectroscopist</td>
</tr>
<tr>
<td>Industrial Engineering Technician</td>
<td>Ichthyologist</td>
<td>Technical Writer</td>
<td>Statistician</td>
</tr>
<tr>
<td>Licensing Engineer</td>
<td>Inorganic chemist</td>
<td>Technical Writer</td>
<td>Technical Writer</td>
</tr>
<tr>
<td>Manufacturing Engineer</td>
<td>Laboratory Technician</td>
<td>Toxicologist</td>
<td>Toxicologist</td>
</tr>
<tr>
<td>Manufacturing Technician</td>
<td>Marine Scientist</td>
<td>Zoologist</td>
<td>Zoologist</td>
</tr>
<tr>
<td>Manufacturing Processes Engineer</td>
<td>Nuclear Engineer and Procurement Engineer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Career Specialties / Occupations**

Sample Career Specialties / Occupations

- Aerospace Engineer
- Aeronautical Engineer
- Agricultural Engineer
- Agricultural Technician
- Application Engineer
- Architectural Engineer
- Automotive Engineer
- Biomedical Engineer
- Biotechnology Engineer
- Chemical Engineer
- Civil Engineer
- Communications Engineer
- Computer Engineer
- Computer Hardware Engineer
- Computer Programmer
- Computer Science Technician
- Computer Software Engineer
- Construction Engineer
- Consultant
- Development Engineer
- Drafter
- Electrical Engineer
- Electrician
- Electronics Technician
- Energy Transmission Engineer
- Environmental Engineer
- Facilities Technician
- Fire Protection Engineer
- Geothermal Engineer
- Hazardous Waste Engineer
- Hazardous Waste Technician
- Human Factors Engineer
- Industrial Engineer
- Industrial Engineering Technician
- Licensing Engineer
- Manufacturing Engineer
- Manufacturing Technician
- Manufacturing Processes Engineer
- Marine Engineer
- Materials Engineer
- Materials Lab & Supply Technician
- Mechanical Engineer
- Metallurgic Engineer
- Mining Engineer
- Naval Engineer
- Network Technician
- Nuclear Engineer
- Ocean Engineer
- Operations Research Engineer
- Packaging Engineer
- Packaging Technician
- Petroleum Engineer
- Plastic Engineer
- Power Systems Engineer
- Product Design Engineer
- Project Engineer
- Project Manager
- Prototype Engineer
- Quality Engineer
- Quality Technician
- Radio/TV Broadcast Technician
- Radiology Engineer
- Researcher
- Safety Engineer
- Software Engineer
- Sound Technician
- Structural Engineer
- Survey Technician
- Systems Design Engineer
- Technical Sales Manager
- Technical Writer
- Telecommunications Engineer
- Textile Engineer
- Transportation Engineer
- Nuclear Engineer and Procurement Engineer

**Pathways**

- Engineering and Technology
- Science and Math

**Cluster Knowledge and Skills**

- Academic Foundations
- Communications
- Problem Solving and Critical Thinking
- Information Technology Applications
- Systems
- Safety, Health and Environment
- Leadership and Teamwork
- Ethics and Legal Responsibilities
- Employability and Career Development
- Technical Skills

**Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.**