

## Secondary Courses for High School Credit

- |         |  |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> <li>Principles of Applied Engineering</li> <li>Principles of Technology</li> <li>Introduction to ComputerAided Design and Drafting</li> <li>Introduction to Engineering Design (PLTW)</li> <li>Engineering Essentials (PLTW)</li> </ul>   |
| Level 2 | <ul style="list-style-type: none"> <li>Intermediate ComputerAided Design and Drafting</li> <li>Robotics I</li> <li>Programmable Logic Controller I</li> <li>Manufacturing Engineering Technology I</li> <li>AC/DC Electronics</li> </ul>   |
| Level 3 | <ul style="list-style-type: none"> <li>Engineering Design and Presentation I</li> <li>Robotics II</li> <li>Programmable Logic Controller II</li> <li>Engineering Mathematics</li> <li>Solid State Electronics</li> <li>Engineering Science</li> <li>Digital Electronics</li> <li>Computer Integrated Manufacturing (PLTW)</li> <li>Engineering Design and Development (PLTW)</li> </ul>  |
| Level 4 | <ul style="list-style-type: none"> <li>Engineering Design and Presentation II</li> <li>Engineering Design and Problem Solving</li> <li>Career and Technical Education Project-based Capstone</li> <li>Practicum in Science, Technology, Engineering, and Mathematics</li> <li>Practicum in Science, Technology, Engineering, and Mathematics + Extended</li> <li>Practicum in Science, Technology, Engineering, and Mathematics</li> <li>Practicum in Engineering (TBD)</li> <li>Career Preparation for Programs of Study</li> <li>Career Preparation for Programs of Study + Extended Career Preparation</li> <li>Scientific Research and Design</li> </ul> |

- Electrical Engineers

### Aligned Advanced Academic Courses

AP or IB	AP Calculus AB AP Calculus BC AP Computer Science Principles	AP Physics 1 AP Physics 2 AP Statistics	IB Physics SL IB Physics HL IB Computer Science SL IB Computer Science HL
Dual Credit	Dual credit offerings will vary by local education agency.		

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards concentrator/completer status for this program of study.

### Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	<ul style="list-style-type: none"> <li>Intern for a construction company and use computer-aided design (CAD) to draw electrical blueprints</li> <li>Shadow an electrical engineering professional</li> </ul>
Expanded Learning Opportunities	<ul style="list-style-type: none"> <li>Participate in SkillsUSA or TSA</li> <li>Join a local engineering association and attend meetings</li> </ul>






### Aligned IndustryBased Certifications

- Engineering Technology/Technician



Median Wage \$102,534  
Annual Openings: 1,271  
10-Year Growth: 21%

### Course Information

Level 1

Course	Prerequisites   Corequisites	Career Clusters
Principles of Applied Engineering* 13036200 (1 credit)	Prerequisites:None Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
Principles of Technology* 13037100 (1 credit)	Prerequisites:One credit of high school science and Algebra I Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
Introduction to ComputerAided Design and Drafting* 13037350 (1 credit)	Prerequisites:None Corequisites:None Recommended Prerequisites:Principles of Applied Engineering, Principles of Architecture and Design, or Principles of Manufacturing Recommended Corequisites:None	
Introduction to Engineering Design (PLTW)* N1303742 (1 credit)	Prerequisites:None Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
Engineering Essentials (PLTW)* N1303760 (1 credit)	Prerequisites:None Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	

Level 2

Course	Prerequisites   Corequisites	Career Clusters
Intermediate Computer Aided Design and Drafting* 13037360 (1 credit)	Prerequisites:Architectural Design I and Introduction to ComputerAided Design and Drafting Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
Robotics I* 13037000 (1 credit)	Prerequisites:None Corequisites:None Recommended Prerequisites:Principles of Applied Engineering Recommended Corequisites:None	

Continued on next page

\* Indicates course is included in more than one program of study.

For additional information on the Engineering Career Cluster, contact [cte@tea.texas.gov](mailto:cte@tea.texas.gov) or visit <https://tea.texas.gov/cte>



Course Information



### Course Information

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Career and Technical Education Project-Based Capstone*</b> First Time Taken: 12701101 (1 credit)	Prerequisites:None Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
<b>Practicum in Science, Technology, Engineering, and Mathematics*</b> First Time Taken: 13037400 (2 credits) Second Time Taken: 13037410 (2 credits)	Prerequisites:Algebra I and Geometry Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
<b>Practicum in Science, Technology, Engineering, and Mathematics + Extended Practicum in Science, Technology, Engineering, and Mathematics*</b> First Time Taken: 13037405 (3 credits) Second Time Taken: 13037415 (3 credits)	Prerequisites:Algebra I and Geometry Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
<b>Practicum in Engineering*</b> TBD (TBD credit)	Prerequisites:TBD Corequisites:TBD Recommended Prerequisites:TBD Recommended Corequisites:TBD	
<b>Career Preparation for Programs of Study*</b> First Time Taken: 12701121 (2 credits)	Prerequisites:At least one Level 2 or higher CTE course Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	
<b>Career Preparation for Programs of Study + Extended Career Preparation*</b> First Time Taken: 12701141 (3 credits)	Prerequisites:At least one Level 2 or higher CTE course Corequisites:None Recommended Prerequisites:None Recommended Corequisites:None	

Continued on next page

\* Indicates course is included in

### Course Information

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Scientific Research and Design*</b> 13037200 (1 credit)	Prerequisites: Biology, Chemistry, Integrated Physics and Chemistry (IPC), or Physics Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

\* Indicates course is included in more than one program of study.

For additional information on the Engineering Career Cluster, contact [cte@tea.texas.gov](mailto:cte@tea.texas.gov) or visit <https://tea.texas.gov/cte>

