## CTE - CIP Course Details Catalog

**Cluster:** Manufacturing

**CIP:** 47.0105 - Industrial Electronics Technology/Technician.  (Non Traditional - Female)

**Status:** Open  **Start Year:** 2011  **End Year:**

**Minimum Carnegie Units:** 2.00

### Group 1

**Minimum Course Selection:**  
- **School:** 1  
- **ACC:** 0  
- **Regional:** 0

<table>
<thead>
<tr>
<th>State Course ID</th>
<th>State Course Title</th>
<th>Max Carnegie Units</th>
<th>Start SY</th>
<th>End SY</th>
</tr>
</thead>
<tbody>
<tr>
<td>20101A001</td>
<td>Energy Utilization Technology</td>
<td>1.00</td>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>11002A001</td>
<td>Communication Technology</td>
<td>1.00</td>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>13052A001</td>
<td>Production Technology</td>
<td>1.00</td>
<td>2011</td>
<td></td>
</tr>
<tr>
<td>21052A002</td>
<td>Introduction to Technology and Engineering (Industrial)</td>
<td>1.00</td>
<td>2011</td>
<td></td>
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</tbody>
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### Group 2

**Minimum Course Selection:**  
- **School:** 0  
- **ACC:** 1  
- **Regional:** 1

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<th>State Course ID</th>
<th>State Course Title</th>
<th>Max Carnegie Units</th>
<th>Start SY</th>
<th>End SY</th>
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</thead>
<tbody>
<tr>
<td>17104A001</td>
<td>Industrial Electronics I</td>
<td>3.00</td>
<td>2011</td>
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<tr>
<td>17104A002</td>
<td>Industrial Electronics II</td>
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<td>2011</td>
<td></td>
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<tr>
<td>13102A001</td>
<td>Mechatronics</td>
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### Group 3

**Minimum Course Selection:**  
- **School:** 0  
- **ACC:** 0  
- **Regional:** 0

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<tr>
<th>State Course ID</th>
<th>State Course Title</th>
<th>Max Carnegie Units</th>
<th>Start SY</th>
<th>End SY</th>
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</thead>
<tbody>
<tr>
<td>22153A001</td>
<td>Cooperative Education</td>
<td>3.00</td>
<td>2011</td>
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</tbody>
</table>
CTE - CIP Course Details Catalog

Cluster: Manufacturing

Course Descriptions

CIP: 47.0105 - Industrial Electronics Technology/Technician.

State Course ID: 20101A001  Course Title: Energy Utilization Technology
Energy Utilization Technology is a course designed to foster an awareness and understanding of how we use energy in our industrial technological society. Areas of study include conversion of energy, electrical fundamentals, solar energy resources, alternate energy resources such as wind, water, and geothermal; fossil fuels, nuclear power, energy conservation, and computer uses in energy technology. Students use laboratory experiences to become familiar with current energy technologies.

State Course ID: 11002A001  Course Title: Communication Technology
Communication Technology is a course designed to foster an awareness and understanding of the technologies used to communicate in our modern society. Students gain experience in the areas of design and drafting, radio and television broadcasting, computers in communication, photography, graphic arts, and telecommunications.

State Course ID: 13052A001  Course Title: Production Technology
Production Technology is a course designed to foster an awareness and understanding of manufacturing and construction technology. Through a variety of learning activities, students are exposed to many career opportunities in the production field. Experiences in manufacturing include product design, materials and processes, tools and equipment including computers, safety procedures, corporate structure, management, research and development, production planning, mass production, marketing and servicing. In construction, students are exposed to site preparation, foundations, building structures, installing utilities, and finishing and servicing structures.

State Course ID: 21052A002  Course Title: Introduction to Technology and Engineering (Industrial)
Introduction to Technology & Engineering is comprised of the following areas: Production, Transportation, Communication, Energy Utilization and Engineering Design but is not limited to these areas only. This course will cover the resources, technical processes, industrial applications, technological impact and occupations encompassed by that system.

State Course ID: 17104A001  Course Title: Industrial Electronics I
This course introduces students to the skills needed to service, repair, and replace a wide range of equipment associated with automated or instrument-controlled manufacturing processes. Planned learning activities in this course allow students to become more knowledgeable in the fundamental principles and theories of electrical/electronic and hydraulic/pneumatic equipment as applied to instrumentation devices and digitally encoded radio equipment. Instruction also includes safety principles and practices, semi-conductors and transistor theory, electrical parameters and circuits, electronic component function and identification, and the use and care of related hand tools, power tools, and test equipment.

State Course ID: 17104A002  Course Title: Industrial Electronics II
This course provides planned learning activities designed to allow students to gain knowledge and skills in testing, maintaining, and repairing electronic equipment and systems used in the manufacturing industry. Learning activities in this course emphasizes the development of more advanced knowledge and skills than those provided in Industrial Electronics I. Skills introduced in this course include instruction in the interpretation of technical sketches, schematics, and circuit diagrams. Additional units of instruction include the identification and causes of equipment malfunctions, the repair and replacement of parts and equipment, the care and use of standard tools, equipment, and specialized instrumentation testing devices.
## Course Descriptions

### Cluster: Manufacturing

### CIP: 47.0105 - Industrial Electronics Technology/Technician.

**State Course ID:** 13102A001  **Course Title:** Mechatronics  
Electro-Mechanical Systems courses provide students with instruction and experience in components and equipment that use electricity and the power of physical forces. Students gain an understanding of the principles of electricity and mechanics and their application to gears, including hydraulic/pneumatic equipment, cams, levers, circuits, and other devices used in the manufacturing process or within manufactured goods.

**State Course ID:** 22153A001  **Course Title:** Cooperative Education  
Cooperative Education is a capstone course designed to assist students in the development of effective skills and attitudes through practical, advanced instruction in school and on the job through cooperative education. Students are released from school for their paid cooperative education work experience and participate in 200 minutes per week of related classroom instruction. Classroom instruction focuses on providing students with job survival skills and career exploration skills related to the job and improving students' abilities to interact positively with others. For skills related to the job, refer to the skill development course sequences, the task list or related occupational skill standards of the desired occupational program. The course content includes the following broad areas of emphasis: further career education opportunities, planning for the future, job-seeking skills, personal development, human relationships, legal protection and responsibilities, economics and the job, organizations, and job termination. A qualified career and technical education coordinator is responsible for supervision. Written training agreements and individual student training plans are developed and agreed upon by the employer, student and coordinator. The coordinator, student, and employer assume compliance with federal, state, and local laws and regulations.