



# Community College Initiative Program

2023-2024

Field of Study: Applied Engineering

Applied Engineering Concentration Areas		
<ul style="list-style-type: none"> <li>• Architecture</li> <li>• Automotive Technology or Service Mngmt</li> <li>• Computer Aided Design</li> <li>• Construction Management</li> <li>• Electro-Mechanical Technology</li> <li>• Electricity, Electromechanical and Electronics Technology</li> <li>• Heating Ventilation and Air Conditioning</li> <li>• Machine Repair: Automated Systems</li> <li>• Manufacturing Technology</li> <li>• Mechatronics</li> <li>• Renewable Energy Technology</li> <li>• Robotics</li> <li>• Welding</li> </ul>		
Track One Certificate	Track Two Non-Certificate Courses	Track Three Courses and English
Minimum Requirements		
<p>Participants who meet the following criteria will be eligible to participate in Track One:</p> <ul style="list-style-type: none"> <li>• Students must meet minimum language requirements to enroll in credit-bearing classes.</li> <li>• Students must meet a minimum math requirement.</li> <li>• Pre-requisites may be required for specific courses.</li> </ul>	<p>Participants who meet the following criteria will be eligible to participate in Track Two:</p> <ul style="list-style-type: none"> <li>• Students must meet minimum language requirements to enroll in credit-bearing or workforce development classes.</li> <li>• Pre-requisites may be required for specific courses.</li> </ul>	<p>Students who have not yet met minimum requirements in English at their host campus will take a combination of English classes and content courses, as possible based on their level of proficiency and department approval.</p>
Sample Field Concentration Courses		
Electricity and Electronic Fundamentals Electronic Documentation Electronics Materials and Fabrication Digital Fundamentals Survey of Automation Construction Planning & Control Building Construction Estimating Technical Mathematics Engineering Materials & Processes Math course	Architecture, Intro to BIM-Revit Technical Mathematics Intro to Automotive Computer Aided Drafting & Design Construction Planning and Control Electricity/Electronic Fundamentals Engineering Materials & Processes Machine Fabrication Machine Shop Metrology Intro to Robotics	English Reading and Vocabulary English Grammar English Writing English Oral Expression English Listening and Speaking College Success Skills Non-credit course Field elective
General Studies Helpful for the Field		
<ul style="list-style-type: none"> <li style="width: 25%;">• Oral Communication</li> <li style="width: 25%;">• College Writing</li> <li style="width: 25%;">• Project Management</li> <li style="width: 25%;">• Conflict Resolution</li> </ul>		
Hands-on, Practical Professional Experience Outside of the Classroom		
<p><b>Sample Internship Opportunities—Minimum of 50 hours</b>            Local car dealerships, local businesses in field, campus-based labs, and when labor and/or union laws limit options in a particular field, participants will have a comprehensive and experiential learning opportunity through in-depth site visits to a variety of engineering firms and manufacturing sites and meetings with engineers, designers, and leadership</p>		
<p><b>Sample Volunteer Activities that Build Professional Experience in the Field—Minimum of 75 hours</b>            Habitat for Humanity Build Sites and ReStore Center, local car dealerships, local businesses/organizations in the field</p>		
<p><b>Sample CCI Programming in This Field of Study</b>  <i>Program Site Visits:</i> Businesses within this field of study, such as local car dealership, John Deere, Caterpillar Inc., Smith &amp; Robertson, Chips Manufacturing, Air Products, and Kennedy Space Center  <i>Workshops and Conferences:</i> Manufacturing technology, machine repair, welding workshops, and International Manufacturing Technology Show  <i>National Credential Preparation:</i> Non-credit certificates in a variety of fields</p>		