# Mechanical Engineering Systems

## Industry Certifications | License

- Electronic Assembler
- General Electronics Technician
  - Endorsed by IPC-Association Connecting Electronics Industries, Halliburton & Cameron Measurement Systems (CMS)

## Quick Facts

<table>
<thead>
<tr>
<th>Average Salary:</th>
<th>$18.00/hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students:</td>
<td>Adult &amp; High School</td>
</tr>
<tr>
<td>Campus:</td>
<td>Drumright</td>
</tr>
<tr>
<td>Times:</td>
<td>Morning, Afternoon, Full Day</td>
</tr>
</tbody>
</table>

## Scheduling Information

- **Drumright:**
  - Morning: 8:25am – 11:15am
  - Afternoon: 12:45pm – 3:35pm

High school students attend morning or afternoon. Adults can choose from morning, afternoon or all day. Restrictions apply. Most classes follow the traditional August – May schedule. Ask about classes with Controlled Entry/Exit Options.

## Entrance Requirements

- None

## Application Process

Applications are available online at [www.CentralTech.Edu](http://www.CentralTech.Edu), on Central Tech campuses and high schools in our district. Return completed application to a Central Tech Recruiter or high school counselor. Additional information may be required.

## Financial Aid

Financial aid is defined as any grant, part-time employment, scholarship, or other federally funded program. Students with financial need may be eligible - applies to career majors of 600 hours or more. Central Tech Federal School Code: **009964**

Application for Federal Student Aid (FAFSA)
  - [www.fafsa.ed.gov](http://www.fafsa.ed.gov)

## College Credit

College credit is awarded by appropriate higher education institutions. Get specific details governing college credit at Central Tech from a college credit advisor.

## Career Majors

### Estimated Tuition Books & Fees

#### Electrical Maintenance Technician Assistant
This career major is designed for individuals seeking careers in maintenance in a manufacturing environment. This is the basics of the maintenance manufacturing curriculum. The course covers safety, manufacturing fundamentals, tools, basic electricity, basic electronics, motor control, and adapting to the workforce skills.

**Class time by hours | 900 clock hours**

| 45 FUNDAMENTALS OF MANUFACTURING | 30 LEAN MANUFACTURING CONCEPTS |
| 30 SAFETY IN MANUFACTURING | 45 PRINCIPLES OF WELDING & MACHINING FOR MFG. MAINTENANCE |
| 30 MAINTENANCE TOOLS & EQUIPMENT IN MFG. | 60 BASIC ELECTRICAL THEORY |
| 60 INDUSTRIAL ELECTRICITY | 60 ELECTRICAL SCHEMATIC & BLUEPRINT READING |
| 120 INDUSTRIAL WIRING METHODS | 60 ELECTRICAL DISTRIBUTION |
| 120 INDUSTRIAL ELECTRONICS | 30 MOTOR THEORY & OPERATIONS |
| 90 ELECTROMECHANICAL DEVICES & APPLICATIONS | 90 MOTOR CONTROL WIRING |
| 30 WORKFORCE STAGING |

**Tuition: $1350| Fees: $136| Books & Supplies: $578.65| Cost: $2064.65**

#### Electrical/Electronics Maintenance Technician
This career major is designed for individuals seeking careers in maintenance in a manufacturing environment. This is the basics of the maintenance manufacturing curriculum. The course covers safety, manufacturing fundamentals, tools, basic electricity, basic electronic, motor control, and adapting to the workforce skills.

**Class time by hours | 1590 clock hours**

| 45 FUNDAMENTALS OF MANUFACTURING | 30 LEAN MANUFACTURING CONCEPTS |
| 60 LEAN MANUFACTURING PROCESSES | 45 PRINCIPLES OF WELDING & MACHINING FOR MFG. MAINTENANCE |
| 30 SAFETY IN MANUFACTURING | 120 INDUSTRIAL WIRING METHODS |
| 60 INDUSTRIAL ELECTRICITY | 60 ELECTRICAL SCHEMATIC & BLUEPRINT READING |
| 60 BASIC ELECTRICAL THEORY | 120 INDUSTRIAL ELECTRONICS |
| 60 ELECTRICAL DISTRIBUTION | 60 DIRECT CURRENT CIRCUITS |
| 60 ALTERNATING CURRENT CIRCUITS | 90 MOTOR CONTROL WIRING |

**Tuition: $225| Fees: $136| Books & Supplies: $362.15| Cost: $723.15**

## Electrical/Electronics Maintenance Technician (con’t)

- 30 MOTOR THEORY & OPERATIONS
- 90 ELECTROMECHANICAL DEVICES & APPLICATIONS
- 90 PROGRAMMABLE CONTROLLER INTERFACING
- 90 PROGRAMMABLE CONTROLLER PROGRAMMING
- 120 DIGITAL ELECTRONICS FOR MFG. MAINTENANCE
- 120 MICROPROCESSOR INSTRUMENTATION
- 90 INSTRUMENTATION & CONTROL I
- 30 WORKFORCE STAGING

**Tuition: $2385| Fees: $136| Books & Supplies: $710.65| Cost: $3231.65**

#### Electronics Assembler
This major prepares students as electronics assemblers who read engineering drawings and electronic schematics to assemble electronic products. Students learn electrical safety, proper use and maintenance of hand and power tools, and precision measurements for electronics technicians. Included are proper selection of connection techniques and connectors and fasteners used in constructing electronic circuits and devices along with the troubleshooting, repair and maintenance of electromechanical devices.

**Class time by hours | 150 clock hours**

- 15 ELECTRICAL SAFETY FOR ELECTRONICS TECHNICIANS
- 15 ELECTRONICS HAND & POWER TOOLS FOR ELECTRONICS TECHNICIANS
- 15 SOLDERING FOR ELECTRONICS TECHNICIANS
- 15 INSTRUMENTS & MEASUREMENTS FOR ELECTRONICS TECHNICIANS
- 15 MECHANICAL FASTENERS & TERMINALS FOR ELECTRONICS TECHNICIANS
- 45 ELECTROMECHANICAL DEVICES FOR ELECTRONICS TECHNICIANS
- 30 WORKFORCE STAGING

**Tuition: $225| Fees: $136| Books & Supplies: $362.15| Cost: $723.15**

## Maintenance, Installation & Repair

### Workforce Transition

This career major is designed to enhance the development of leadership and employability skills which assists with student transition into the work-site experience, a primary methodology utilized to broaden the learner’s skills and increase effectiveness and productivity. It is particularly appropriate for developing proficiency skills unique to a given occupation — especially occupations that require locally owned equipment and facilities. Internships, project-based instruction and the acquisition of industry certification will be the focus during this career major to reinforce knowledge and skills obtained within the
**Mechanical Engineering Systems**

**Maintenance, Installation & Repair Workforce Transition (con’t)**

Maintenance, Installation and Repair Pathway career majors. Students will make final preparations for industry transition as they master outlined competencies, undertake special projects, cross-train, and/or participate in workplace learning opportunities to enhance skills in accordance with current and future industry demands.

**Class time by hours | 390 clock hours**
- 30 WORKFORCE STAGING
- 30 WORKFORCE CONNECTION
- 30 WORKFORCE INDUCTION

**Tuition: $585 | Cost: $585**

**Meantical Maintenance Technician**

This career major is designed for individuals seeking careers in the mechanical and hydraulic aspects of the Manufacturing environment. The course covers manufacturing fundamentals, safety, welding principles, electrical, mechanical power transmission, and fluid power transmission.

**Class time by hours | 735 clock hours**
- 45 FUNDAMENTALS OF MANUFACTURING
- 30 LEAN MANUFACTURING CONCEPTS
- 60 LEAN MANUFACTURING PROCESSES
- 30 SAFETY IN MANUFACTURING
- 45 PRINCIPLES OF WELDING & MACHINING FOR MFG. MAINTENANCE
- 30 MAINTENANCE TOOLS & EQUIPMENT IN MFG.
- 60 BASIC ELECTRICAL THEORY
- 60 ELECTRICAL SCHEMATIC & BLUEPRINT READING
- 60 ELECTRICAL DISTRIBUTION
- 90 ELECTROMECHANICAL DEVICES & APPLICATIONS
- 30 MOTOR THEORY & OPERATIONS
- 75 MECHANICAL POWER TRANSMISSION THEORY & PRINCIPLES
- 90 FLUID POWER THEORY & POWER TRANSMISSION PRINCIPLES
- 30 WORKFORCE STAGING

**Tuition: $1102.50 | Fees: $136 | Books & Supplies: $574.40 | Cost: $1812.90**

**Mechanical Maintenance, Technician Assistant (con’t)**

Welding and machining along with maintenance tools and equipment, schematics and blueprints. Students are taught maintenance and repair of electromechanical devices and mechanical/fluid power transmissions.

**Class time by hours | 585 clock hours**
- 45 FUNDAMENTALS OF MANUFACTURING
- 30 LEAN MANUFACTURING CONCEPTS
- 30 SAFETY IN MANUFACTURING
- 45 PRINCIPLES OF WELDING & MACHINING FOR MFG. MAINTENANCE
- 30 MAINTENANCE TOOLS & EQUIPMENT IN MFG.
- 60 BASIC ELECTRICAL THEORY
- 90 ELECTROMECHANICAL DEVICES & APPLICATIONS
- 60 ELECTRICAL SCHEMATIC & BLUEPRINT READING
- 75 MECHANICAL POWER TRANSMISSION THEORY & PRINCIPLES
- 90 FLUID POWER THEORY & POWER TRANSMISSION PRINCIPLES
- 30 WORKFORCE STAGING

**Tuition: $877.50 | Fees: $136 | Books & Supplies: $574.40 | Cost: $1587.90**

**Mechanical Maintenance Technician Assistant**

This major prepares students to assist mechanical maintenance technicians who maintain, troubleshoot and repair machinery in an industrial manufacturing environment. Instruction includes fundamentals of Central Technology Center | 2011-2012 General Catalog | www.centraltech.edu Page 111 manufacturing, safety rules and regulations, lean manufacturing concepts and principles of