I.T.C. Energy Systems Industrial Maintenance Mechanic

Student Outcomes:

1. Describe and conduct safe work practices in laboratory and industrial environments.
2. Identify and apply societal and regulatory codes and standards.
3. Select appropriate test equipment to troubleshoot and analyze mechanical systems and electrical, electronic, and motor control related circuits.
4. Describe fundamental mechanical principles, fluid mechanics, thermodynamics, material science, and equipment design.
5. Conduct maintenance, troubleshooting and repair of common industrial mechanical systems.
6. Interpret and utilize technical documentation related to mechanical, electrical and motor control systems.
7. Demonstrate basic structural welding.
8. Demonstrate basic computer-aided drafting and design.
9. Conduct commissioning practices for equipment setup and alignment.
10. Recognize specific equipment applications for reactive, preventive, predictive, and proactive maintenance.

Program Admission Requirements

Placement Test | Math
---|---
SAT | 360
ACT | 14
ALEKS | 14

Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ESET 1100 &amp; 1100L</td>
<td>Engineering Technology Orientation and Introduction to an Industrial Environment Laboratory</td>
<td>2</td>
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<tr>
<td>or ESET 1162</td>
<td>Industrial Safety and Regulations</td>
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Choose the following:

- ESET 1117 & 1117L | Introduction to Industrial Thermal Systems and Introduction to Industrial Thermal Systems Lab | 2-3 |
- ESET 2220 | Thermal Cycles and Heat Transfer | |
- ESET 1118 | Industrial Maintenance Mechanic I | 2 |
- ESET 1118L | Industrial Maintenance Mechanic Lab I | 1 |
- ESET 1119 | Industrial Maintenance Mechanic II | 2 |
- ESET 1119L | Industrial Maintenance Mechanic Lab II | 1 |
- ESET 1121 | Basic Electricity and Electronics | 4 |
- ESET 1121L | Basic Electricity and Electronics Laboratory | |
- ESET 1122 | Electrical Systems and Motor Control Theory | 3 |
- ESET 1122L | Electrical Systems and Motor Control Laboratory | 1 |
- ESET 1123 | Mechanical Power Transmission I | 2 |
- ESET 1123L | Mechanical Power Transmission Laboratory I | 2 |
- ESET 1125 | Introduction to Structural Welding | 1 |
- ESET 1126 | Introduction to Mechanical Drafting and Computer Aided Design | 1 |
- ESET 1127 | Mechanical Power Transmission II | 2 |
- ESET 1127L | Mechanical Power Transmission Laboratory II | 2 |
- ESET 1140 | Applied Technical Intermediate Algebra | |
- MATH 1143 & MATH 1144 | Precalculus I: Algebra and Precalculus II: Trigonometry | |
- MATH 1147 | Precalculus | |
- ESET 2243 | Hydraulic and Pneumatic Power | 2 |
- ESET 2243L | Hydraulic and Pneumatic Power Laboratory | 2 |
- ESET 2246 | Materials and Metallurgy | 2 |

Total Credits | 42-43 |