Western Technical College

10620180 Electromechanical Internship

Course Outcome Summary

Course Information

Description	In this course, students will be exposed to various activities within advanced manufacturing as they relate to the design, implementation, and maintenance of automated industrial systems. Students will work with an employer partner to experience how Electromechanical applications are applied to maintaining and troubleshooting equipment.
Career Cluster	Manufacturing
Instructional Level	Associate Degree Courses
Total Credits	1
Total Hours	72
Prior Learning Assessment	Employer Verification CPL Form

Pre/Corequisites

Prerequisite 10620164 Automation Systems Integration

Textbooks

No textbook required.

Success Abilities

1. Cultivate Passion: Expand a Growth-Mindset
2. Live Responsibly: Foster Accountability
3. Refine Professionalism: Improve Critical Thinking

4. Refine Professionalism: Practice Effective Communication

High Impact Practices

1. Community Based Learning Project: a key learning outcome of this course is to connect academic learning and civic development while simultaneously addressing a community partner's needs, interests, or problems.
2. Work-Based Learning: this course applies your learning to your desired profession by working in industry placements such as internships, practicums, clinicals, or co-ops.

Program Outcomes

1. Perform work safely
2. Troubleshoot electrical and mechanical systems and devices
3. Repair electrical and mechanical systems
4. Communicate technical information
5. Integrate electrical and mechanical systems and devices

Course Competencies

1. Perform work safely.

Assessment Strategies

1.1. On-the-job Performance

Criteria

You will know you are successful when

1.1. you follow industry and site specific safety policies and practices.
1.2. you use industry and site specific Personal Protective Equipment.
1.3. you apply safety procedures, tools, and instruments based on specific situations
1.4. you follow Lock-out/Tag-out procedures

Learning Objectives

1.a. Follow established safety policies and practices (e.g. OSHA, MSHA, Arc Flash, site specific).
1.b. Identify necessary safety procedures, tools, and instruments based on specific situations.
1.c. Employ proper job specific Personal Protective Equipment (PPE).
1.d. Follow Lock-out/Tag-out procedures.

2. Troubleshoot electrical and mechanical systems.

Assessment Strategies

2.1. On-the-job Performance

Criteria

You will know you are successful when

2.1. you follow logical troubleshooting practices.
2.2. you use appropriate test equipment.
2.3. you use appropriate documentation to troubleshoot situations.
2.4. you determine corrective action.

Learning Objectives

2.a. Apply troubleshooting practices to the situation.
2.b. Select and employ appropriate test equipment
2.c. Document the troubleshooting practices used for the situation.
2.d. Determine and apply corrective action.

3. Troubleshoot electrical and mechanical devices.

Assessment Strategies

3.1. On-the-job Performance

Criteria

You will know you are successful when

3.1. you follow logical troubleshooting practices
3.2. you use appropriate test equipment
3.3. you use appropriate documentation to troubleshoot situations
3.4. you determine corrective action

Learning Objectives

3.a. Apply troubleshooting practices to the situation.
3.b. Select and employ appropriate test equipment
3.c. Document the troubleshooting practices used for the situation.
3.d. Determine and apply corrective action.

4. Communicate technical information.

Assessment Strategies

4.1. On-the-job Performance

Criteria

You will know you are successful when

4.1. you interpret documentation of automation control systems
4.2. you create electrical diagrams and mechanical drawings, and control documentation for automation control systems
4.3. you revise electrical diagrams and mechanical drawings, and control documentation for automation control systems
4.4. you document problems and solutions
4.5. you use correct grammar, spelling, and punctuation in documentation.

Learning Objectives

4.a. Analyze documentation of automation control systems.
4.b. Create electrical diagrams and mechanical drawings, and control documentation for automation control systems
4.c. Revise electrical diagrams and mechanical drawings, and control documentation for automation control systems
4.d. Document problems and solutions
4.e. Demonstrate professional communication by using correct grammar, spelling, and punctuation.

5. Assist in integration of automation and mechanical control systems.

Assessment Strategies

5.1. On-the-job Performance

Criteria

You will know you are successful when

5.1. you assist in the integration of industrial devices utilizing communication protocols.
5.2. you revise designs as needed to build integrated systems
5.3. you select industrial component(s) for application.
5.4. you assist in the integration of an industrial controller necessary automated components.

Learning Objectives

5.a. Apply communication protocols to integrate industrial devices.
5.b. Revise designs as needed to build integrated systems.
5.c. Integrate an industrial controller with automated components (e.g. sensors, PLCS, HMI, fluid power, actuators, industrial robotics, vision systems, electrical control, electrical safety systems, industrial communication systems, motors/controls).
5.d. Determine industrial component(s) for the application.

6. Display professionalism.

Assessment Strategies

6.1. On-the-job Performance

Criteria

You will know you are successful when

6.1. you display high standards for attendance.
6.2. you demonstrate punctuality in approaching and completing tasks.
6.3. you pay attention to details of assigned task(s).
6.4. you display a high level of concentration even when assigned an unpleasant task.
6.5. you accept and apply constructive feedback to tasks.
6.6. you achieve goals.

Learning Objectives

6.a. Identify professional behaviors for a career in Automation.
6.b. Identify professional attire and appearance for a career in Automation.
6.c. Identify important details of job tasks to complete.
6.d. Seek and accept constructive feedback from others.
6.e. Set internship goals.