

ELECTROMECHANICAL TECHNOLOGY

Program Description

The Electromechanical Technology (ET) program is designed to prepare individuals for entry-level jobs in industrial settings that require electrical and mechanical skills. While the program focuses primarily on industrial settings, graduates of the program are prepared for maintenance jobs in a variety of workplaces such as schools, hospitals, banks, government agencies and independent contractors.

Upon satisfactory completion of the first semester of the ET program, students will earn a certificate of proficiency in Industrial Equipment Repair. This certificate of proficiency acknowledges that the student has developed basic competencies in industrial electricity and mechanics for limited entry-level maintenance jobs (usually outside of the industrial setting unless the student has multiple years of maintenance work experience).

Students continuing on to satisfactorily complete the one-year ET program will earn a technical certificate. Graduates of the ET program should possess those skills necessary to compete for entry-level maintenance jobs in a variety of workplace settings and apprentice/trainee positions in the industrial setting. Students pursuing high-demand, high-wage maintenance jobs in the industrial setting should note that these jobs usually require advance training (at least two years) and/or maintenance work experience.

Graduates of the ET program desiring to receive advanced training may continue their studies by enrolling in the second year program, Electromechanical Technology-Instrumentation, which leads to an advanced technical certificate. With the successful completion of three to five additional courses beyond the advanced technical certificate, a student can earn an Associate of Applied Science in Industrial Technology degree.

The length of the Electromechanical Technology program for a student attending full-time is two (2) semesters and one (1) summer term. The program costs are approximately \$5,900 for tuition and fees and approximately \$1,550 for books and supplies.

Student Learning Outcomes

Successful completers of this program will be able to:

- Perform reading for the purpose of machining, quality checks, or assembly of components for assembly and will have an understanding as to how tolerances affect equipment runability.
- Safely work with machine shop, hand and power tools and perform precise measurements with layout tools.
- Demonstrate an understanding of power components to include: bearings and seals, chains and sprockets, speed reducers and pumps.
- Understand and utilize precision maintenance practices and be able to perform equipment shaft alignment by straight edge, dial indicator and laser alignment methods. Also demonstrate the importance of balancing and vibration analysis and its effect on the facility's return on investment.
- Read and understand components of hydraulic circuits, and demonstrate troubleshooting techniques through trainer exercises.

GRADUATION REQUIREMENTS

(Suggested Schedule)

<u>Fall Semester</u>			<u>Credit Hours</u>
MAT	2213	**Advanced Industrial Math	3
ELM	1064	Industrial Electricity	4
ELM	1074	Industrial Mechanics	4
ELM	1033	Industrial Diagrams	3
ELM	1012	Maintenance Welding	2
Exit: Industrial Equipment Repair Certificate of Proficiency			16
<u>Spring Semester</u>			
ELM	1054	Industrial Circuits & Controls	4
ELM	2084	Advanced Industrial Mechanics	4
ELM	1043	Pneumatics & Hydraulics	3
COM	1203	Tech Communications OR	3
ENGL	1013	**Composition I	
CFA	1103	Tech Computer Fundamentals OR	3
CIS	1013	**Introduction to Computer-based Systems	
<u>Summer I Term</u>			
ELM	1023	Basic Machine Shop	3
COM	1102	Employability Skills/Ethics	2
Exit: Electromechanical Technology Technical Certificate			38

**Required for Associate Degree