

# INDUSTRIAL MAINTENANCE-MILLWRIGHT TECHNOLOGY AAS

Industrial Maintenance-Millwright Technology prepares students for work in industrial mills. This is a multi-skilled trade that uses areas of fabrication, electronics, electrical systems, automation, computers, hydraulics, PLC's, and mechanical systems. Conveyor systems, power distribution, and service to all sorts of automated equipment are taught. Rigging, mechanical drive systems, installation and alignment of equipment, and pumps are taught. The Millwright program is designed to prepare graduates for entry-level employment as apprentice-technicians, with emphasis on practical experience in both theory and laboratory settings using lab equipment and assemblies similar to equipment found in industry.

Training begins in the classroom and continues in the shop area. Students complete all lab assignments in accordance with industry standards, using the tools and equipment of the profession with an emphasis on safety and quality. Refer to the Technical & Industrial website for a tool list.

Entrance requirements for students seeking enrollment in the Industrial Maintenance-Millwright program include:

- Aleks score in Math of 30 or higher, Writing Placement Exam of 2 or higher, or qualify for MTHPT-137 and ENGL-101.
- Enrollment priority is on a first-come, first-served basis as determined by the student's faculty advising date.

Upon completion of the Industrial Maintenance-Millwright program, students should be able to:

- Identify PLC hardware; wire up PLC power, inputs and outputs
- Read and write basic ladder logic programs
- Know the theory of DC and AC motors
- Troubleshoot motor control circuits
- Trade skills to include blueprint reading, construction documents, hand tools, fasteners/ anchors, construction equipment, safety, resume building, teamwork, leadership and trade accounting
- Familiar with principles of electricity and how to work safely with electrical devices
- Knowledge of mechanical systems. These include bearings, couplings, motors, pumps, heat exchangers, compressors and methods for the transmission of power
- Ability to construct a power source; how to obtain optimum performance from a power source, and how to troubleshoot a power source

## General Education Requirements

Code	Title	Credits
<b>Written Communication</b>		
ENGL-101	WRITING AND RHETORIC I	3.00
<b>Oral Communication</b>		
Select one of the following:		3.00
COMM-101	FUNDAMENTALS OF ORAL COMMUNICATION	
COMM-203	SMALL GROUP COMMUNICATION	
COMM-204	PUBLIC SPEAKING	
<b>Mathematical Ways of Knowing</b>		
MTHPT-137	MATH FOR TECHNOLOGY	4.00
<b>Social &amp; Behavioral Ways of Knowing</b>		
Select one of the following:		3.00
ANTH-102	CULTURAL ANTHROPOLOGY	
ANTH-120	WORLD PREHISTORY	
ANTH-170	INTRODUCTION TO NATIVE AMERICAN STUDIES	
ECON-201	PRINCIPLES OF MACROECONOMICS	
ECON-202	PRINCIPLES OF MICROECONOMICS	
GEOG-102	INTRODUCTION TO GEOGRAPHY	
HIST-101	WORLD HISTORY I	
HIST-102	WORLD HISTORY II	
HIST-111	UNITED STATES HISTORY I	
HIST-112	UNITED STATES HISTORY II	
HRPT-184	DIVERSITY IN ORGANIZATIONS	
HRPT-185	HUMAN RELATIONS IN ORGANIZATIONS	
POLS-101	AMERICAN NATIONAL GOVERNMENT	
POLS-237	INTERNATIONAL POLITICS	

POLS-285	COMPARATIVE GOVERNMENT
PSYC-101	INTRODUCTION TO GENERAL PSYCHOLOGY
PSYC-205	LIFESPAN DEVELOPMENTAL PSYCHOLOGY
SOC-101	INTRODUCTION TO SOCIOLOGY
SOC-102	SOCIAL PROBLEMS
SS-184	DIVERSITY IN ORGANIZATIONS
SS-185	HUMAN RELATIONS IN ORGANIZATIONS

**Additional General Education Core**

Select one of the following: 3.00-5.00

ANTH-360	RACE AND ETHNICITY
ART-100	INTRODUCTION TO ART
BIOF-100	INTRODUCTION TO BIOINFORMATICS
BIOL-100	CONCEPTS OF BIOLOGY
BIOL-120	PLANTS AND PEOPLE
BIOL-123	BIOLOGY IN FILM
BIOL-175	HUMAN BIOLOGY
BIOL-227	HUMAN ANATOMY AND PHYSIOLOGY I
CHEM-100	CONCEPTS OF CHEMISTRY
CHEM-105	GENERAL, ORGANIC AND BIOCHEMISTRY
CHEM-111	PRINCIPLES OF CHEMISTRY I
CITPT-108	INTRODUCTION TO COMPUTER SCIENCE
COMM-345	INTERCULTURAL COMMUNICATION
CS-108	INTRODUCTION TO COMPUTER SCIENCE
ENGL-175	LITERATURE AND IDEAS
ENGL-257	WORLD CLASSICS
ENGL-258	INTERNATIONAL LITERATURE
ENGL-260	NATIVE AMERICAN LITERATURE
ENGL-261	MYTHOLOGIES
ENGL-474	NATIVE AMERICAN WRITTEN LITERATURE
FSCI-101	INTRODUCTION TO FORENSIC SCIENCE
GEOL-101	PHYSICAL GEOLOGY
GEOL-120	INTRODUCTION TO EARTH SYSTEMS
GIS-271	GEOGRAPHIC INFORMATION SYSTEMS
HUM-101	THE ART AND HISTORY OF THE MOTION PICTURE
HUM-150	INTRODUCTION TO THE ARTS
ID-240	INTEGRATED SCIENCE II
ID-300C	ETHICS AND IDENTITY
ID-301A	HELLS CANYON INSTITUTE
KIN-220	SOCIAL-CULTURAL ASPECTS OF SPORTS
MUS-101	SURVEY OF MUSIC
MUS-102	MUSIC IN AMERICA
MUS-150	WORLD MUSIC
MUS-151	HISTORY OF MUSICAL THEATER
MUS-152	HISTORY OF JAZZ AND POPULAR MUSIC STYLES
NP-101	NEZ PERCE LANGUAGE AND CULTURE
NP-102	NEZ PERCE LANGUAGE AND HISTORY
NS-140	INTEGRATED SCIENCE I
NS-150	INTRODUCTION TO NATURAL SCIENCES
NS-174	NATURAL SCIENCE FOR ELEMENTARY EDUCATOR
PHYS-111	GENERAL PHYSICS I
or PHYS-112	GENERAL PHYSICS II
PHYS-171	PHYS SCIENCES FOR ELEMENTARY EDUCATORS

PHYS-205	DESCRIPTIVE ASTRONOMY	
PHYS-211	PHYSICS FOR SCIENTISTS AND ENGINEERS I	
SPAN-101	ELEMENTARY SPANISH I	
SPAN-102	ELEMENTARY SPANISH II	
SPAN-201	INTERMEDIATE SPANISH I	
SPAN-202	INTERMEDIATE SPANISH II	
SS-184	DIVERSITY IN ORGANIZATIONS	
SS-185	HUMAN RELATIONS IN ORGANIZATIONS	
THEA-101	SURVEY OF THE THEATER	
<b>Total Credits</b>		<b>16.00-18.00</b>

## Program Requirements

Code	Title	Credits
<b>Technical Core</b>		
IMMTI-108	INTRODUCTION TO PLC'S	4.00
IMMTI-115	BASIC ELECTRICITY	5.00
IMMTI-130	TRADE SKILLS	5.00
IMMTI-140	MECHANICAL SYSTEMS MAINTENANCE	5.00
IMMTI-150	WELDING POWER SOURCES	2.00
IMMTI-155	BASIC WELDING PROCESSES LAB	7.00
IMMTI-165	ADVANCED WELDING PROCESSES	7.00
IMMTI-205	ELECTRIC MOTORS, DRIVES AND CONTROLS	4.00
IMMTI-251	BLUEPRINT READING	2.00
IMMTI-261	BENCHWORK FOR WELDERS	2.00
IMMTI-262	DISTORTION CONTROL	2.00
IMMTI-270	DIRECTED WELDING PROJECTS	4.00
IMMTI-294	INTERNSHIP	2.00
<b>Total Credits</b>		<b>51.00</b>

## Sequential Plan of Study - Even Year

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
MTHPT-137	MATH FOR TECHNOLOGY	4.00
IMMTI-150	WELDING POWER SOURCES	2.00
IMMTI-155	BASIC WELDING PROCESSES LAB	7.00
IMMTI-261	BENCHWORK FOR WELDERS	2.00
IMMTI-270	DIRECTED WELDING PROJECTS	4.00
<b>Credits</b>		<b>19.00</b>
<b>Spring</b>		
ENGL-101	WRITING AND RHETORIC I	3.00
IMMTI-165	ADVANCED WELDING PROCESSES	7.00
IMMTI-251	BLUEPRINT READING	2.00
IMMTI-262	DISTORTION CONTROL	2.00
<b>Credits</b>		<b>14.00</b>
<b>Second Year</b>		
<b>Fall</b>		
CORE	Oral Communication	3.00
IMMTI-115	BASIC ELECTRICITY	5.00
IMMTI-108	INTRODUCTION TO PLC'S	4.00
IMMTI-205	ELECTRIC MOTORS, DRIVES AND CONTROLS	4.00

CORE	Social & Behavioral Ways of Knowing	3.00
<b>Credits</b>		<b>19.00</b>
<b>Spring</b>		
CORE	Additional General Education Course	3.00
IMMTI-130	TRADE SKILLS	5.00
IMMTI-140	MECHANICAL SYSTEMS MAINTENANCE	5.00
IMMTI-294	INTERNSHIP	2.00
<b>Credits</b>		<b>15.00</b>
<b>Total Credits</b>		<b>67.00</b>

## Sequential Plan of Study - Odd Year

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
IMMTI-108	INTRODUCTION TO PLC'S	4.00
IMMTI-115	BASIC ELECTRICITY	5.00
IMMTI-205	ELECTRIC MOTORS, DRIVES AND CONTROLS	4.00
MTHPT-137	MATH FOR TECHNOLOGY	4.00
<b>Credits</b>		<b>17.00</b>
<b>Spring</b>		
ENGL-101	WRITING AND RHETORIC I	3.00
CORE	Social & Behavioral Ways of Knowing	3.00
IMMTI-130	TRADE SKILLS	5.00
IMMTI-140	MECHANICAL SYSTEMS MAINTENANCE	5.00
IMMTI-294	INTERNSHIP	2.00
<b>Credits</b>		<b>18.00</b>
<b>Second Year</b>		
<b>Fall</b>		
CORE	Oral Communication	3.00
IMMTI-150	WELDING POWER SOURCES	2.00
IMMTI-155	BASIC WELDING PROCESSES LAB	7.00
IMMTI-261	BENCHWORK FOR WELDERS	2.00
IMMTI-270	DIRECTED WELDING PROJECTS	4.00
<b>Credits</b>		<b>18.00</b>
<b>Spring</b>		
CORE	Additional General Education Course	3.00
IMMTI-262	DISTORTION CONTROL	2.00
IMMTI-251	BLUEPRINT READING	2.00
IMMTI-165	ADVANCED WELDING PROCESSES	7.00
<b>Credits</b>		<b>14.00</b>
<b>Total Credits</b>		<b>67.00</b>

View on YouTube (<https://www.youtube.com/watch?v=rnEOhHETbrE>)

Graduates from Industrial Maintenance Millwright Technology programs go on to obtain careers in a variety of fields:

- Industrial mechanic
- Millwright
- Machinery Maintenance Worker
- Commercial and Industrial Machinery Repairer