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 |
|-------------------------------|---|---------|
| Written Communication | | |
| ENGL-101 | WRITING AND RHETORIC I | 3.00 |
| Oral Communication | | |
| Select one of the following: | | 3.00 |
| COMM-101 | FUNDAMENTALS OF ORAL COMMUNICATION | |
| COMM-203 | SMALL GROUP COMMUNICATION | |
| COMM-204 | PUBLIC SPEAKING | |
| Mathematical Ways of Knowi | ng | |
| MTHPT-137 | MATH FOR TECHNOLOGY | 4.00 |
| Social & Behavioral Ways of H | Knowing | |
| 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 Educatio | n 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 | |

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

Program Requirements

| Code | Title | Credits |
|----------------|--------------------------------------|---------|
| Technical Core | | |
| 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 |
| Total Credits | | 51.00 |

Total Credits

Sequential Plan of Study - Even Year

| Course | Title | Credits |
|-------------|--------------------------------------|---------|
| First Year | | |
| Fall | | |
| 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 |
| | Credits | 19.00 |
| Spring | | |
| 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 |
| | Credits | 14.00 |
| Second Year | | |
| Fall | | |
| 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 |
|-----------|-------------------------------------|-------|
| | Credits | 19.00 |
| Spring | | |
| 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 |
| | Credits | 15.00 |
| | Total Credits | 67.00 |

Sequential Plan of Study - Odd Year

| Course | Title | Credits |
|-------------|--------------------------------------|---------|
| First Year | | |
| Fall | | |
| 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 |
| | Credits | 17.00 |
| Spring | | |
| 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 |
| | Credits | 18.00 |
| Second Year | | |
| Fall | | |
| 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 |
| | Credits | 18.00 |
| Spring | | |
| 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 |
| | Credits | 14.00 |
| | Total Credits | 67.00 |

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