

MECHANICAL SYSTEMS TECHNOLOGY

Overview

Mechanical Systems Technology Technical Diploma

Program Code: 31-462-11

For more information:

Graduates of the one-year Mechanical Foundations Technical Diploma program will possess a broad, hands-on, mechanical skillset. They will be prepared to perform preventative maintenance, troubleshooting, and general maintenance of mechanical systems in a wide range of industries. Students will receive training in the proper use of hand tools and fasteners, mechanical systems, industrial electricity, OSHA safety, blueprint reading, HVAC, and basic plumbing.

The minimum required course grades and program grade point average (GPA) for students under this catalog are:

Core Courses = C
General Studies Courses = C-
Program GPA = 2.0

Learning Outcomes

Program Outcomes

1. Describe and apply basic electrical concepts including voltage, current, resistance, and power.
2. Produce parts from engineering drawings using manual and Computer Numerical Controlled (CNC) machines.
3. Demonstrate the proper use of tools and equipment used in the installation of various pipe and fittings used in the HVAC trade.
4. Apply troubleshooting principles to fluid power systems.
5. Incorporate welding and cutting techniques to build assemblies to print.
6. Apply troubleshooting principles to diesel powered systems.

Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multicultural and collaborative**, we provide curricular and co-curricular opportunities to develop critical life skills. WCTC is committed to teaching all students the following skills:

- **Communication:** Demonstrate appropriate communication.
- **Critical Thinking/Problem Solving:** Demonstrate critical thinking skills to analyze situations and solve problems.
- **Relationships:** Demonstrate effective interpersonal skills.
- **Self-management:** Demonstrate responsible and respectful behavior.

Required Courses

Code	Title	Credits
Required Courses:		
401-318	Piping for HVAC	1
401-322	Heating Systems Fundamentals	2
412-125	Diesel Equipment Fundamentals	2

414-186	Industrial Electricity	2
420-130	Industrial Blueprint Reading 1	2
420-160	Manufacturing Processes - Cold	2
Approved Substitutes: 420-120 OR 420-320 OR 462-326		
442-303	Related Welding I	2
Approved Substitute: 442-131		
462-151	Mechanical Power Trans 1	3
Approved Substitute: 462-100		
462-104	Industrial Safety	2
Approved Substitute: 462-304		
462-314	Basic Maintenance Tools	1
462-316	Trends in Mechanical Fields	1
612-310	Industrial Hydraulic Systems	2
Approved Substitute: 612-110		
612-315	Industrial Pneumatic Systems	2
Approved Substitute: 612-115		
General Studies Courses		
804-310	Math for Industry	2
Approved Substitutes: 804-107 OR 804-115 OR 804-116 OR 804-118 OR 804-195 OR 804-198 OR (804-304 AND 804-305)		
Total Credits		26

Full-time, Fall Start

First Year

Fall Term 1		Credits
462-304	Industrial Safety	2
462-316	Trends in Mechanical Fields	1
462-314	Basic Maintenance Tools	1
804-310	Math for Industry	2
Credits		6

Fall Term 2

412-125	Diesel Equipment Fundamentals	2
462-151	Mechanical Power Trans 1	3
414-186	Industrial Electricity	2
Credits		7

Spring Term 1

401-318	Piping for HVAC	1
420-130	Industrial Blueprint Reading 1	2
420-160	Manufacturing Processes - Cold	2
612-315	Industrial Pneumatic Systems	2
Credits		7

Spring Term 2

442-303	Related Welding I	2
401-322	Heating Systems Fundamentals	2
612-310	Industrial Hydraulic Systems	2
Credits		6
Total Credits		26