

Industrial Manufacturing Technology (15.0613)

Overview

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Program Description

The Industrial Manufacturing Technology (IMFG) program provides students with a broad range of mechanical, electrical, and electronic skills. Students are provided with a learner-centered curriculum based on integrated academic and technical content, employability skills, along with work-based learning opportunities that enable them to connect what they are learning with real-live work scenarios. The program is closely aligned with the needs of employers, industry, and labor.

Graduates who earn credentials in this program work in various industries to make or process raw materials into finished products using industrial machines.

Students must maintain a 2.0 grade point average and complete all required courses to graduate from this program. Completion time depends on course load, course withdrawals, and repeat courses. The program takes approximately four semesters to complete based on full-time status (15+ hours per semester).

Student Learning Outcomes

1. Demonstrate an understanding of functional and structural overviews of processes to include plant safety and quality in the manufacturing environment.
2. Use and operate safely hand tools, power tools, hydraulic systems, and pneumatic systems.
3. Explain the automation components of manufacturing.

Special Comments

This diploma consists of a core set of courses and 3 concentration areas from which the student can choose to complete the diploma credential.

Optional prep course is [CPTR 1002](#) – Computer Literacy & Applications.

Diploma

TD – Industrial Manufacturing Technology

Concentrations

Electrical & Instrumentation

Millwright

Machinist Technology

Exit Points

CTC – Manufacturing Fundamentals

CTS – Industrial Manufacturing

CTS – Industrial Electronics Technician

CTS – Millwright Apprentice

CTS – Basic Machine Tool Technology

Program Curriculum

Curriculum

Course No.	Course Title	Lecture	Lab	Total Credit Hrs.	Total Clock Hrs.
	CORE COURSES:				
ORNT 1000	Freshman Seminar	1	0	1	15
IMFG 1100	Introduction to Manufacturing	2	0	2	30
IMFG 1120	Tools and Equipment Used in Manufacturing	1	1	2	60
IMFG 1200	Automation	1	1	2	45
IMFG 1300	Introduction to Fabrication, Process Technology, & Machining	1	2	3	90
	CTC –Manufacturing Fundamentals			10	240
IMFG 1215	Basic AC/DC Electrical	1	2	3	105
IMFG 1121	Basic Mechanical	1	2	3	105
	CTS - Industrial Manufacturing			16	450
INDUSTRIAL ELECTRICAL & INSTRUMENTATION CONCENTRATION: (Core + the following)					
IMFG 1433	Wiring/Electrical Blueprint Interpretation	1	1	2	60
IMFG 1150	Fluid Power I	1	2	3	90
IMFG 1235	Motor Controls	1	2	3	105
IMFG 2123	Understanding Programmable Controllers	1	2	3	105
IMFG2100	Basic Process Control	1	2	3	105
	CTS – INDUSTRIAL ELECTRONICS TECHNICIAN			30	915
IMFG1250	Advanced Programmable Controllers Mechatronics	1	2	3	105
IMFG 2800	Advanced Process Control Mechatronics	1	3	4	120
	Introduction to Industrial Networking	1	2	3	90
IMFG ???/ IMFG 2999	Elective or Coop	0	3	3	90
IMFG ???/ IMFG 2999	Elective or Coop	0	3	3	90
JOBS 2450	Job Seeking Skills	2	0	2	30
	TD –INDUSTRIAL MANUFACTURING-ELECTRICAL & INSTRUMENTATION CONCENTRATION			45	1350
MILLWRIGHT CONCENTRATION: (Core + the following)					
IMFG 1320	Millwright I	3	0	3	45
IMFG 1321	Millwright I Lab	0	2	2	90
IMFG 1420	Millwright II	3	0	3	45

<u>IMFG 1421</u>	Millwright II Lab	0	3	3	120
<u>IMFG 1130</u>	Pneumatics Applications	0	2	2	90
	CTS – MILLWRIGHT APPRENTICE			29	840
<u>IMFG 1325</u>	Pipefitting	0	2	2	60
<u>IMFG 1140</u>	Hydraulics Applications	0	3	3	90
<u>IMFG 1210</u>	Material Handling	1	1	2	60
<u>IMFG 1315</u>	Welding	0	2	2	90
IMFG <u>???/IMFG 2999</u>	Elective or Co-op	0	3	3	90
IMFG <u>???/IMFG 2999</u>	Elective or Co-op	0	3	3	90
<u>JOBS 2450</u>	Job Seeking Skills	2	0	2	30
	TD – INDUSTRIAL MANUFACTURING-MILLWRIGHT CONCENTRATION			45	1350
MACHINE TOOL TECHNOLOGY CONCENTRATION: (Core + the following)					
<u>IMFG 1110</u>	Shop Mathematics	2	1	3	75
<u>IMFG 1310</u>	Machine Shop I	3	3	6	150
<u>IMFG 1340</u>	Basic Lathe	0	3	3	135
<u>IMFG 1440</u>	Basic Mill	0	3	3	135
	CTS-CNC OPERATOR			31	945
<u>IMFG 1410</u>	Machine Shop II	2	4	6	150
<u>IMFG 2710</u>	CNC	1	2	3	135
IMFG <u>???/IMFG 2999</u>	Elective or Co-op	0	3	3	90
<u>JOBS 2450</u>	Job Seeking Skills	2	0	2	30
	TD – INDUSTRIAL MANUFACTURING-MACHINE TOOL TECHNOLOGY CONCENTRATION			45	1350