

MANUFACTURING INTEGRATION ENGINEERING TECHNOLOGY

Overview

Manufacturing Integration Engineering Technology Associate of Applied Science Degree

Program Code: 10-664-4

For more information: wctc.edu/miet

Gain essential skills in sensor integration, IoT connectivity, data management, machine learning, PLCs and robotics. Learn to enhance manufacturing operations, ensuring safety, quality and efficiency while driving innovation and adaptability through hands-on, data-driven training.

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. Integrate Sensors
2. Manage Data Systems
3. Implement Predictive Maintenance
4. Apply Machine Learning
5. Support Data-Driven Decisions
6. Demonstrate Manufacturing Process Knowledge
7. Integrate PLCs
8. Utilize Robotics and Vision Systems

Critical Life Skills

To help our students prepare for success in a workplace and society that is **increasingly global, multi-cultural, and collaborative**, all students are given opportunities to develop and demonstrate Critical Life Skills, both in and out of the classroom. The following Critical Life Skills are learning outcomes for WCTC students.

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

Listed below are the required courses for the program. To view the recommended sequence for taking courses click on the plan of study tab(s) above. Work with your Academic Advisor to design a program plan!

View your **Program Matrix** to find out when each course will be offered (term and time of day).

Code	Title	Credits
Core Courses		
420-160	Manufacturing Processes - Cold	2
439-181	SolidWorks for Tool Design 1	2
605-103	AutoCad Electrical	2
605-110	PLC-CoDeSys Programming	2
605-139	Human Machine Interfaces	3
605-188	PLC 1	2
605-189	PLC 2	2
605-191	PLC 3	2
605-193	PLC - Siemens Controllers	2
605-196	Drives and Intro to Servos	2
605-197	Sensors and Process Control	2
606-153	Internship - Applied Tech	1
606-162	Manufacturing Process - Hot	2
664-130	Introduction to SCADA	3
664-140	Machine Safety & Risk Asmt	2
664-164	Robotics Systems	2
664-166	Robotics Operations	2
664-170	Data Comm for Integration	3
664-172	Advanced Robotics	2
664-180	Machine Learning & Ind 4.0	2
664-185	Adv Machine Learning & Ind 4.0	2
890-108	Employment Success	1
General Studies:		
801-136	English Composition 1	3
Approved Substitute: 801-223		
801-196	Oral/Interpersonal Comm	3
Approved Substitute: 801-198		
804-107	College Mathematics	3
Approved Substitutes: 804-115 OR 804-116 OR 804-118 OR 804-195 OR 804-198 OR (804-304 AND 804-305)		
809-195	Economics	3
Approved Substitutes: 809-143 OR 809-287		
809-199	Psychology of Human Relations	3
Approved Substitute: 809-198		
Total Credits		60

Full-time Plan

First Year		Credits
Fall Term 1		
605-188	PLC 1	2
605-189	PLC 2	2
605-197	Sensors and Process Control	2
804-107	College Mathematics	3
Credits		9
Fall Term 2		
605-196	Drives and Intro to Servos	2
664-164	Robotics Systems	2

664-170	Data Comm for Integration	3
	Credits	7
Winter Interim		
890-108	Employment Success	1
	Credits	1
Spring Term 1		
605-139	Human Machine Interfaces	3
605-191	PLC 3	2
664-166	Robotics Operations	2
	Credits	7
Spring Term 2		
605-193	PLC - Siemens Controllers	2
606-162	Manufacturing Process - Hot	2
809-199	Psychology of Human Relations	3
	Credits	7
Summer Term		
606-153	Internship - Applied Tech	1
	Credits	1
Second Year		
Fall Term 1		
420-160	Manufacturing Processes - Cold	2
605-103	AutoCad Electrical	2
664-130	Introduction to SCADA	3
	Credits	7
Fall Term 2		
439-181	SolidWorks for Tool Design 1	2
605-110	PLC-CoDeSys Programming	2
801-136	English Composition 1	3
	Credits	7
Spring Term 1		
664-172	Advanced Robotics	2
664-180	Machine Learning & Ind 4.0	2
809-195	Economics	3
	Credits	7
Spring Term 2		
664-140	Machine Safety & Risk Asmt	2
664-185	Adv Machine Learning & Ind 4.0	2
801-196	Oral/Interpersonal Comm	3
	Credits	7
	Total Credits	60