OPERATIONS ENGINEERING TECHNOLOGY WITH A CONCENTRATION IN AUTOMATED MANUFACTURING, ASSOCIATE OF APPLIED SCIENCE

The Associate of Applied Science degree in Operations Engineering Technology with a concentration in Automated Manufacturing is designed to enable students to obtain the necessary background to become an effective supervisor or manager in a manufacturing/ production setting that uses automated manufacturing processes. Production, logistics, basic design principles, automated manufacturing processes, and the basics in managing manufacturing processes is covered within the program. The program is designed to tie the fundamentals of automated manufacturing with the fundamentals of managing production processes. This program ties into 4-year bachelor degree programs aimed at automated manufacturing.

There will be no new students accepted in the program for Academic year 2024-2025. Current students should reach out to an academic counselor to create an academic plan to complete their remaining courses by the end of Summer 2026.

This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed. If you do not want to receive the embedded certificate(s), please notify the Office of the Registrar at RegistrarOffice@tri-c.edu.

Learn more about how certificate credits apply to the related degree.

Related Degrees and Certificates

- 3D Digital Design and Manufacturing Technology, Certificate of Proficiency
- Computer-Aided Drafting (CAD), Certificate of Proficiency
- Computer-Integrated Manufacturing (CIM), Certificate of Proficiency
- Machine Tools Operation, Certificate of Proficiency
- Quality Control, Certificate of Proficency
- Digital Design & Product Innovation, Short-Term Certificate
- Digital Manufacturing and Product Launch, Short-Term Certificate

Program Admissions Requirements

- High School Diploma/GED
- Complete the following courses with a grade of "C" or higher:

Code	Title	Credit Hours
MATH-0965	Intermediate Algebra (or appropriate score on Math Placement Test)	6
MET-1100	Technology Orientation	2
Select one of the following:		3
ENG-1010	College Composition I	
ENG-101H	Honors College Composition I	

Program Learning Outcomes

This program is designed to prepare students to demonstrate the following learning outcomes:

a. Utilize basic computer skills including word processing, spreadsheet, and database, (i.e., MS Word, Excel, Access, PowerPoint)
b. Identify and explain basic safety requirements and good safe work habits for working in manufacturing industries.
c. Apply knowledge of regulated environments, various industry standards including FDA, ISO, and documentation and report writing.
d. Communicate effectively, orally and in writing, and display professionalism, and work well in a team environment.
e. Apply knowledge of basic lean concepts and tools (5 S), including introductory Six Sigma concepts, methods for identifying and eliminating the various forms of waste.
f. Utilize a working understanding of statistical process controls (SPC) and pre-production approval process (PPAP) to validate both product and process compliance.
g. Explain and apply Computer Numerical Control (CNC) and Program Logic Controller (PLC) programming concepts.
h. Understand and follow preventative maintenance strategy.

Suggested Semester Sequence

First Semester		Credit Hours
CNST-1750	Construction Safety	3
MATH-1530	College Algebra [2]	4
MET-1100	Technology Orientation	2
MET-1120	Computer Applications and Programming [3]	2
MET-1230	Drawing & AutoCAD	3
Select one of the following:		3
ENG-1010	College Composition I	
ENG-101H	Honors College Composition I	
	Credit Hours	**17**
Second Semester		
EET-1220	Circuits and Electronics for Automation [4]	3
MET-1410	Computer Aided Manufacturing Processes	3
MET-2140	Manufacturing Automation and Control	3
MET-2250	Robotics Operations Certification	3
MET-2601	3D Solid Modeling	3
	Credit Hours	**15**

Third Semester		
MATH-1540	Trigonometry	3
MET-2260	Infrared Robotic Vision	3
MET-XXXX	Elective	3
Select one of the following:		3
ENG-1020	College Composition II [5]	
ENG-102H	Honors College Composition II	
Select one of the following:		3
PSY-1010	General Psychology	
PSY-101H	Honors General Psychology	
PSY-1050	Introduction to Industrial/Organizational Psychology	
	Credit Hours	**15**
Fourth Semester		
MET-2750	Technical Operations Management	3
MET-2410	Quality Control and Lean Manufacturing	3
MET-XXXX	MET Elective	3
PHYS-1210	College Physics I [7]	4
	Credit Hours	**13**
	Total Credit Hours	**60**

[2] MATH-1610 Calculus Ican be used for both MATH-1530 College Algebra and MATH-1540 Trigonometry requirements but an additional 2 credit hours of electives may be needed.

[3] IT-2670 C/C++ Programming Language or MET-2550 Engineering Analysis Using MATLAB will be accepted in place of MET-1120 Computer Applications and Programming to meet this requirement.

[4] EET-1161 Direct Current Circuits may be used to meet this requirement.

[5] COMM-1010 Fundamentals of Speech Communication may be used to meet this requirement.

[6] MATH-1410 Elementary Probability and Statistics I or MET-2430 Engineering Probability and Statistics may be used to meet this requirement.

[7] PHYS-2310 General Physics I may be used to meet this requirement.

MATH-1140, MATH-1141, MATH-1200, MATH-1270, and MATH-1280 can no longer count towards fulfilling the college-level mathematics requirement. These courses were re-classified as developmental mathematics by the state of Ohio in 2016. Tri-C established a 5-year transitioning window for students who had completed these courses prior to 2016 to apply them towards meeting graduation requirements, which expired in Summer 2021. It is highly recommended to see a counselor to determine the appropriate math required for your current major.