AUTOMATED MANUFACTURING TECHNOLOGY

Why Automated Manufacturing Technology?

EXTENDED PROGRAM INFORMATION

Overview

Automated Manufacturing Technology refers to flexible manufacturing systems that use innovative technologies to improve both production processes and product quality.

The Automated Manufacturing Technology program prepares students to work with integrated systems, such as robotic automation, modular work cells, machining centers, welding stations, and mechanical and electrical technologies.

Students will explore how each technology supports the full product lifecycle, from initial design and production to final delivery.

Degree & Certificate Options / Degree Strands

The Automated Manufacturing Technology (AMT) program offers an Associate of Science degree. The degree has multiple strands of study to support your interests and future career. Degree strands are helpful if you plan to transfer your degree or course credits to pursue a 4-year degree or other AMT specialized training. To take full advantage of the AMT degree strand options, you are encouraged to speak with an Automated Manufacturing Technology Academic Advisor prior to, or immediately following, enrollment.

Acquired Skills

Depending on your strand of study, upon graduation you will be able to:

- Implement and control automated manufacturing processes.
- Design components and assemblies using SolidWorks.
- Operate 3D printers, laser cutters, and CNC equipment to fabricate components.
- Understand the flow of materials and resources within the manufacturing cycle.
- Integrate manufacturing systems to improve a process or product.
- Program robots, industrial controls, and automated equipment.
- Perform system analysis and troubleshoot manufacturing processes and systems.
- Apply lean manufacturing principles to reduce waste in the manufacturing process.
- Demonstrate theoretical knowledge of electronics, mechanics, computer systems and software control systems.

Technical Standards

Students entering this program should have the following technical skills:*

- Good manual dexterity
- Ability to visualize and portray ideas graphically

**Other technical requirements for this program can be accommodated with appropriate documentation.*

Outcomes

Employment Opportunities

- Automation Technician
- Engineering Technician
- Mechanical Engineering Technician
- Robotics Operator
- Electrical Engineering Technician
- Manufacturing Technician
- Electro-Mechanical Assembler/Technician
- Robotics Technician

Potential Salary*

There is a wide range of jobs in the advanced manufacturing industry. See below for the average annual salary range in central NH* for an ***Electro-Mechanical and Mechatronics Technologist or Technician.***

ENTRY LEVEL	MID-RANGE	EXPERIENCED
$51,041	$64,930	$104,721

**Career Coach 2024*

Outgoing Transfer Opportunities

- University of New Hampshire / UNH Manchester
- Northeastern University
- UMass Lowell
- Worcester Plytechnic Institute (WPI)
- ...and many more!

Employment Opportunities

- Summit Packaging
- DEKA
- Merrimack Manufacturing
- Hitchiner Manufacturing
- ARMI
- ...and many more!

This program is part of the ReGen Valley Common Campus.

Degree & Certificate Curriculum Requirements

Automated Manufacturing Technology Degree

***NOTE:** This chart shows the core curriculum for a baseline Automated Manufacturing Technology Degree. The "AMT Degree Strands" (bottom right) lists technical elective requirements for the Flex, Mechanical Engineering, Robotics and Mechatronics degree strands.*

Major Coursework

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
CBAM105M	Solidworks and 3D Printing	2	3	3
CBAM110M	Industrial Print Reading and Metrology	2	3	3
CBAM115M	Electrical for Manufacturing	2	3	3
CBAM120M	Control Fundamentals with Python	2	3	3
CBAM125M	Manufacturing Fundamentals	2	3	3
	Sub-Total	**11**	**15**	**16**

General Education Requirements

Course Code	Title	TH	LAB	CR
	ENGL110XM or ENGL110M	4	0	4
	Foreign Language/Humanities/Fine Arts Elective	3	0	3
	Lab Science Elective (4 Credits)	3	3	4
	Lab Science Elective (4 Credits)	3	3	4
	Social Science Elective	3	0	3
	Math Elective	4	0	4
	Math Elective	4	0	4
	Sub-Total	**24**	**6**	**26**

Automated Manufacturing Certificate

Course Code	Title	TH	LAB	CR
CBAM101M	Manufacturing Career Prep	1	0	1
CBAM105M	Solidworks and 3D Printing	2	3	3
CBAM110M	Industrial Print Reading and Metrology	2	3	3
CBAM115M	Electrical for Manufacturing	2	3	3
CBAM120M	Control Fundamentals with Python	2	3	3
CBAM125M	Manufacturing Fundamentals	2	3	3
			Total Credits - 16	

Mechatronics Certificate

Course Code	Title	TH	LAB	CR
ADMT110M	Manufacturing Processes	2	3	3
ADMT112M	Intro to Engineering Design and Solid Modeling	3	3	4
ADMT115M	Engineering Print Reading	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
ADMT120M	Motor Controls and PLCs for Manufacturing	3	3	4
ADMT135M	Basic Machining Practices	1	5	3
ADMT210M	Manufacturing Systems I	2	3	3
ADMT230M	CAD/CAM for Manufacturing	2	3	3
			Total Credits - 27	

Robotics Certificate

Course Code	Title	TH	LAB	CR
ADMT110M	Manufacturing Processes	2	3	3
ADMT112M	Intro to Engineering Design and Solid Modeling	3	3	4
ADMT115M	Engineering Print Reading	2	3	3
ADMT118M	Electrical Fundamentals for Manufacturing	3	3	4
ADMT120M	Motor Controls and PLCs for Manufacturing	3	3	4
ADMT210M	Manufacturing Systems I	2	3	3
ROBO210M	Robotic Processes	2	3	3
ROBO211M	Robotic Design	2	3	3
			Total Credits - 27	

AMT Degree Strands

This degree program offers multiple strands (or areas of focus), including Flex, Mechanical Engineering Technology, Mechatronics, and Robotics. Each strand includes a set of specialized elective courses within the core curriculum, allowing students to tailor their education to their interests and career goals.

Flex Strand (60Credits Total) - Students must complete the core Automated Manufacturing Technology (AMT) curriculum requirements with a minimum of 18 elective credits in the ADMT, ROBO, CBAM, CIS, BIO, PHYS, MATH, WELD, DATA, CHEM or as approved by the Department Chair

NOTES:

- 8 credits must be 200 level.
- Military Technical Transfer up to 10 Credits

Mechanical Engineering Technology Strand (61 Credits Total) -

General Education Electives

- PHYS135M College Physics I
- PHYS136M College Physics II
- MATH171 Pre-Calculus
- MATH204M Calculus I

Students must complete the core AMT curriculum requirements with these strand electives:

In-Major Course Requirements

- ADMT112M Intro to Engineering Design and Solid Modeling
- ADMT 118M Electrical Fundamentals for Manufacturing
- ADMT135M Basic Machining Practice
- ADMT220M Material Science
- ADMT225M Statics
- MATH214M Calculus II (optional elective)
- CBAM240 Automated Manufacturing Capstone Experience

Robotics Strand (62 Credits Total)- Students must complete the core AMT curriculum requirements with these strand electives:

- ADMT112M Intro to Engineering Design and Solid Modeling
- ADMT 118M Electrical Fundamentals for Manufacturing
- ADMT120M Motor Controls and PLCs for Manufacturing
- ADMT210M Manufacturing Systems 1
- ROBO210M Robotic Processes
- ROBO211M Robotic Design
- CBAM240 Automated Manufacturing Capstone Experience

Mechatronics Strand (62 Credits Total) - Students must complete the core AMT curriculum requirements with these strand electives

- ADMT112M Intro to Engineering Design and Solid Modeling
- ADMT 118M Electrical Fundamentals for Manufacturing
- ADMT120M Motor Controls and PLCs for Manufacturing
- ADMT135M Basic Machining Practice
- ADMT230M CAD/CAM for Manufacturing.
- ADMT210M Manufacturing Systems 1
- CBAM240 Automated Manufacturing Capstone Experience

All courses and degree requirements are subject to change. For the most current information on MCC programs, see mccnh.edu/programs.