MECHANICAL TECHNOLOGY AAS

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Plastics Technology Option

Mechanical Technology at Cayuga

The Mechanical Technology program at Cayuga provides students with hands-on learning and an in-depth course of study in the technological aspects of mechanical design. Students learn about mechanical design and the equipment, materials, and processes commonly used in mechanical technology.

Our Graduates Are Employed

Cayuga graduates play an important part in local manufacturing and industry at such firms as Welch Allyn, ITT Goulds, Huhtamaki Packaging, Beardsley Design Associates, Anaren Microwave, Young and Franklin, Currier Plastics, and Tessy Plastics. They serve as mechanical designers, CAD designers, process engineers, quality engineers, R&D engineers, and are involved in almost all aspects of mechanical and manufacturing design and engineering.

State-Of-The-Art

—Computer-Aided Design Laboratory using the industry standard software, *Solid Works*

—(3D) solid modeling & AutoCAD (2D) Industrial CAD & REVIT software

—CNC programming & industrial machining standards with CNC machine lathe and mill, HAAS Controllers, & HAAS VM-2 Vertical Milling Machine

Career Possibilities

CAD Designer
Machine Designer
Tool Designer
Architectural/Mechanical Drafter
CNC Machining Programmer
Quality Assurance Technician
Process Setup Technician
Engineering Technician
Mold Technician

Mechanical Engineering Technicians

2021 Median Salary

$60,460/yr

*United States Department of Labor

https://www.bls.gov/ooh/architecture

Affiliations

Syracuse Society of Manufacturing Engineering (SME, Chapter 19)

New York State Engineering and Technology Association (NYSETA)

ADMISSIONS OFFICE
admissions@cayuga-cc.edu
1-866-598-8883

cayuga-cc.edu

CAYUGA COMMUNITY COLLEGE

SUNY

Mechanical Technology AAS

Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
MATH 102	Intermediate Algebra (or higher)**	3
ENGR 103	Manufacturing Materials and Processes	3
MMT 101	Machine Tools I	3
ENGR 126	Computer Aided Design	3
		15
Second Semester		
ENGL 102	Freshman English II	
or		
ENGL 270	Technical Writing	3
MATH 114	Applied Mathematics for Technologists (or higher)**	3
MMT 102	Machine Tools II	3
ENGR 228	Solid Modelling	4
	Technical Concentration Elective*	3
		16
Third Semester		
PHYS 103	General Physics I	4
MMT 221	Tool Design	4
	Technical Concentration Elective*	3
	Technical Concentration Elective*	4
	Health or Physical Education	1
		16
Fourth Semester		
ENGR 203	Applied Statics and Strength of Materials	4
ENGR 207	Quality Assurance	3
	Technical Concentration Elective*	4
	Humanities Elective	3
	Behavioral /Social Science elective***	3
		17
TOTAL CREDIT HOURS		**64**

* The courses listed in concentrations that follow must be used to fulfill degree requirements

** MATH 112, 115, 116 or 121 will not fulfill requirements

*** Recommended elective: GIS 111 or GIS 205

CONCENTRATIONS

Students must choose a particular concentration area and choose four courses from the courses listed in concentration areas to fulfill degree requirements.

Computer Aided Design (CAD)

Courses		*Credit Hours*
ENGR 230	Fluid Systems Design	3
MMT 220	Machine Design*	4
ENGR 125	Building Information Modeling	4
MMT 208	Advanced CAD/CAM	4
MATH 106	Precalculus	
or		
MATH 108	Calculus I	3-4

Facilities Design

Courses		*Credit Hours*
ENGR 230	Fluid Systems Design	3
ENGR 125	Building Information Modeling*	4
ENGR 220	Construction Methods & Materials	4
ENGR 221	Building Mechanical and Electrical Systems	4
ENGR 130	Renewable Energy Systems	3
BUS 260	Project Management	3
MATH 106	Precalculus	
or		
MATH 108	Calculus I	3-4

Mechatronics

Courses		*Credit Hours*
ELEC 101	Electrical Circuits	4
ELEC 209	Programmable Logic Controllers	3
ELEC 220	Industrial Power and Equipment	3
MMT 220	Machine Design*	4
MMT 208	Advanced CAD/CAM *	4
ENGR 230	Fluid Systems Design	3
MATH 106	Precalculus	
or		
MATH 108	Calculus I	3-4

Precision Machining

Courses		*Credit Hours*
MMT 220	Machine Design*	4
ELEC 101	Electrical Circuits	4
ELEC 209	Programmable Logic Controllers	3
MMT 208	Advanced CAD/CAM *	4
ENGR 230	Fluid Systems Design	3
MATH 106	Precalculus	
or		
MATH 108	Calculus I	3-4

* This course is required for the concentration area

Mechanical Technology AAS

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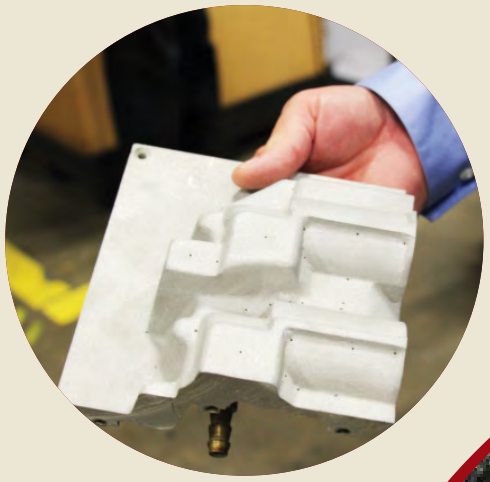

Courses		*Credit Hours*
First Semester		
ENGL 101	Freshman English I	3
MATH 102	Intermediate Algebra (or higher*)	3
ENGR 103	Manufacturing Materials and Processes	3
MMT 101	Machine Tools I	3
MMT 141	Fundamentals of Plastics Technology	3
		15
Second Semester		
ENGL 102	Freshman English II	
or		
ENGL 270	Technical Writing	3
MATH 114	Applied Mathematics for Technologists	
or		
MATH 104 (or higher*)	College Algebra and Trigonometry	3
MMT 241	Plastics Technology: Injection Molding	4
ENGR 228	Solid Modeling	4
ENGR 207	Quality Assurance	3
		17
Third Semester		
CHEM 101	Elements of General Chemistry	
or		
CHEM 103	General Chemistry I	4
MMT 221	Tool Design	4
ENGR 230	Fluid Systems Design	3
MMT 242	Plastics Technology: Blow Molding	4
	Health or Physical Education	1
		16
Fourth Semester		
ENGR 203	Applied Statics & Strength of Materials	4
ELEC	Electronics Elective	3
MMT 245	Plastics Technology Capstone	3
	Humanities Elective	3
	Behavioral /Social Science Elective	3
		16
TOTAL CREDIT HOURS		**64**

* MATH 112, 115, 116 or 121 will not fulfill requirements

One-Year Certificate Programs

ADVANCED MANUFACTURING

This program prepares students for a career in the evolving advanced manufacturing field. Students develop expertise using manufacturing materials and processes and production tools and equipment. The program can be completed in one year, and students can apply the Advanced Manufacturing certificate credits toward the Mechanical Technology AAS degree.

Courses		*Credit Hours*
First Semester		
ENGR 103	Manufacturing Materials and Processes	3
MMT 101	Machine Tools I	3
ENGR 126	Computer Aided Design	3
MATH 102	Intermediate Algebra	3
ENGR 207	Quality Assurance	3
		15
Second Semester		
MATH 114	Applied Mathematics for Technologists	3
ENGR 228	Solid Modeling	4
MMT 102	Machine Tools II	3
MMT 208	Advanced CAD/CAM	4
	Technical Elective*	3
		17
TOTAL CREDIT HOURS		**32**

*Can be satisfied by an MMT, ENGR, or ELEC course

INDUSTRIAL MAINTENANCE TECHNOLOGY

This program is designed to prepare students for a career in the manufacturing workplace with hands-on skills in mechanical and electrical installation and repair and industrial process instrumentation and control.

Local employers have made it clear that these skill are in great demand. Employment opportunities include electrical technician, service technician, and maintenance technician.

Courses		*Credit Hours*
First Semester		
ELEC 101	Electrical Circuits	4
ENGR 103	Manufacturing Materials and Processes	3
ELEC 105	Digital Electronics	4
ENGR 230	Fluid Systems Design	3
		14
Second Semester		
MATH 114	Applied Mathematics for Technologists	
or		
MATH 104	College Algebra & Trigonometry	3
ELEC 220	Industrial Power & Equipment	3
ENGR 250	Thermal Technology	3
ELEC 204	Industrial Electronics	4
ELEC 221	Industrial Maintenance Practices	4
		17
TOTAL CREDIT HOURS		**31**

PLASTICS MANUFACTURING

Plastics and polymer manufacturing constitute the 5th largest manufacturing sector in the United States. Students learn about the plastics industry, and the equipment, materials, and processes commonly used in manufacturing.

Courses		*Credit Hours*
First Semester		
MATH 102	Intermediate Algebra (or higher**)	3
ENGR 103	Manufacturing Materials and Processes	3
MMT 101	Machine Tools I	3
MMT 141	Fundamentals of Plastics Technology	3
ENGR 230	Fluid Systems Design	3
		15
Second Semester		
ENGL 101	Freshman English I	3
MMT 241	Plastics Technology: Injection Molding	
or		
MMT 242	Plastics Technology: Blow Molding	4
MMT 245	Plastics Technology Capstone	3
ENGR 207	Quality Assurance	3
	Technical Elective*	3
		16
TOTAL CREDIT HOURS		**31**

* Can be satisfied by an MMT, ENGR, or ELEC course
**MATH 112, 115, 116 or 121 will not fulfill requirements