Engineering and Technology Department

Associate in Science Degree in Advanced Manufacturing Technology (ETMA)

(Pending degree approval by the Rhode Island Board of Education Council on Postsecondary Education. Courses available in Fall 2016.)

Advanced Manufacturing Technology programs at the Community College of Rhode Island

Modern advanced manufacturing has been revolutionized by the use of computers for design, machining and automation. Today, the design of almost all products and components is accomplished with the use of computer-aided design (CAD) and computer-aided manufacturing programs (CAM). Computer numerical control (CNC) machining is at the heart of advanced manufacturing and the accurate and efficient production of complex components. Advanced manufacturing also uses computers to control the supply of materials and the inspection, quality assurance and distribution of finished products.

The Advanced Manufacturing program at the Community College of Rhode Island builds upon our certificate programs in Introduction to CNC Manufacturing and CNC Manufacturing and 3-D Modeling. The new proposed advanced manufacturing degree and certificate programs cover areas of science and mathematics and their applications to machining practices, CNC programming, and places emphasis on both theoretical and practical phases of the design, cost, quality and production of machined parts. This program is designed to provide students with extensive hands-on laboratory experience while addressing three possible advanced manufacturing tracks: manufacturing design and rapid prototyping, advanced machining skills, and automation and quality.

Associate in Science Degree in Advanced Manufacturing (ETMA)

The Associate in Science Degree in Advanced Manufacturing at the Community College of Rhode Island can be approached from three possible certificates in manufacturing – design and rapid prototyping (ETMD), advanced manufacturing machinery (ETMM) and manufacturing automation and quality (ETMQ) – or directly as a degree path. The degree path requires a prerequisite of MATH 0600 and ENGL 1005. Full-time students can expect to complete this program in five semesters. *See degree requirements on reverse*.

Contact information

For more information about the ETMD, ETMM and ETMQ certificate programs, visit www.ccri.edu/engt/certificate.html or contact:

Cynthia Toti
Outreach Coordinator –
Advanced Manufacturing Programs
Knight Campus
400 East Ave.
Warwick, RI 02886
401-825-2099
catoti@ccri.edu

Dr. Philip Miller
Department Chair
Engineering and Technology Department
401-825-2064
pmiller@ccri.edu

Paula Arruda
Administrative Support
Engineering and Technology Department
401-825-2156
manufacturing@ccri.edu

Associate in Science Degree in Advanced Manufacturing Technology (ETMA) – *(pending approval)*

ASSOCIATE IN SCIENCE DEGREE SUMMARY (ETMA)	COURSE CODE	CREDITS	LECTURE	LAB
General education		22	22	5
Required courses and internship		31	17	165
Elective courses (average hours)		12–26	4–8	8–14
Associate in Science degree totals		65	53	194

GENERAL EDUCATION COURSES				
Composition I	ENGL 1010	3	3	
Applied Technical Mathematics I	MATH 1750	3	4	
Applied Technical Mathematics II	MATH 1760	3	4	
Physics for Technology I	PHYS 1050	4	3	3
Introduction to Renewable Energy	PHYS 1070	3	2	2
Psychology in the Workplace	PSYC 1050	3	3	
Oral Communication I	COMM 1100	3	3	
General education totals		22	22	5

ASSOCIATE IN SCIENCE DEGREE REQUIRED COURSES				
Engineering Graphics	ENGR 1030	3	2	3
Introduction to Manufacturing Processes	ETME 1020	3	1	4
Blueprint Reading and the Machinery's Handbook	ETCN 1100	3	2	2
Precision Measurement and Geometric Dimensioning and Tolerance	ETCN 1200	3	2	2
CNC Machining I	ETCN 1300	3	1	4
Advanced Solid Modeling	ENGT 2090	3	2	2
Introduction to Digital Systems (PLCs)	ETEE 1800	3	2	2
Introduction to Robotics and Control	ETME 1010	3	2	2
Lean Manufacturing*	ETCN 2250	2	1	2
OSHA-10 and Industry Seminars*	ETCN 2400	1	0	2
Computer Numerical Control (CNC) Practicum/Capstone†	ETCN 2500	4	2	140
Associate in Science degree totals		31	17	165

ELECTIVES – 12 credits minimum				
Introduction to AutoCAD	ENGT 1060	2	1	2
Mechanical Industrial Design*	ETCN 1000	3	2	2
3-D Modeling and Prototyping	ETCN 2300	3	2	2
Advanced Machining Skills*	ETCN 2000	3	2	3
Computer-Aided Manufacturing (MasterCam)	ETCN 2100	3	1	4
CNC Machining II	ETCN 2200	3	1	4
Automated Machining Technology*	ETCN 2350	3	1	3
Automation Systems	ETME 2310	3	2	2
Manufacturing Quality Control*	ETCN 2360	3	2	2
Available elective totals *(depending on elective choices)*		12–26	4–8	8–14

**New courses may not yet appear on schedule.* *†Practicum/Capstone course requires a 40-hour internship.*