Engineering and Technology Department

Certificate programs in Advanced Manufacturing Technology

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

Manufacturing Design and Rapid Prototyping certificate (ETMD)

The Manufacturing Design and Rapid Prototyping certificate will allow students to develop the knowledge and skills required for preparing the files and drawings for a variety of mechanical devices and components. The student will develop skills with contemporary CAD software to produce files suitable for machining and 3-D printing.

The emphasis will be placed on designing for advanced manufacturing technology and rapid prototyping using 3-D printers and mechanical simulation.

The certificate can be completed part time in one year and full time in a summer session and one semester. All credits can be applied to the Associate in Science Degree in Advanced Manufacturing Technology. *See certificate requirements on reverse*.

Advanced Manufacturing Machining certificate (ETMM)

The Advanced Manufacturing Machining certificate prepares students to develop the knowledge and skills for advanced manufacturing machining through extensive hands-on experience with manual, conversational and CNC machines. Students will be prepared to read blueprints, select the appropriate machining technology and produce a unit while meeting the design specifications.

An emphasis will be placed on safe and efficient setup and operation of industrial grade machining equipment. Many employment opportunities will be available to students who have all the skills and knowledge associated with CNC and rapid prototyping technology. The program has been designed to provide the student with extensive hands-on laboratory experience, utilizing a recently updated laboratory.

While developing CNC-related skills and knowledge, the certificate will maximize the skills advocated by a manufacturing advisory board. It can be completed part time in one year and full time in a summer session and one semester. All credits can be applied to the Associate in Science Degree in Advanced Manufacturing Technology. *See certificate requirements on reverse*.

Manufacturing Automation and Quality certificate (ETMQ)

The Manufacturing Automation and Quality certificate teaches students to measure the quality of manufactured products and develop efficient manufacturing processes. Students will gain experience with a variety of advanced manufacturing technologies, including wire EDM, plasma cutting, 3-D printing and laser cutting.

The program has been designed to provide the student with extensive hands-on laboratory experience using a recently renovated laboratory. This experience will maximize the skills advocated by the college's manufacturing advisory board. The student will receive an OSHA-10 certification and the opportunity to attend four industry presentations.

The certificate can be completed part time in one year and full time in a summer session and one semester. All credits can be applied to the Associate in Science Degree in Advanced Manufacturing Technology. *See certificate 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

Certificate programs in Advanced Manufacturing – *(pending approval)*

MANUFACTURING DESIGN and RAPID PROTOTYPING (ETMD)	**COURSE CODE**	**CREDITS**	**LECTURE**	**LAB**
Engineering Graphics	ENGR 1030	3	2	3
Blueprint Reading and the Machinery's Handbook	ETCN 1100	3	2	2
Introduction to Manufacturing Processes	ETME 1020	3	1	4
Introduction to AutoCAD (Basic)	ENGT 1060	2	1	2
Advanced Solid Modeling	ENGT 2090	3	2	2
Mechanical Industrial Design*	ETCN 1000	3	2	2
3-D Modeling and Prototyping (Direct Digital Manufacturing)	ETCN 2300	3	2	2
Certificate totals		20	12	17

ADVANCED MANUFACTURING MACHINING (ETMM)				
Introduction to Manufacturing Processes	ETME 1020	3	2	2
Blueprint Reading and the Machinery's Handbook	ETCN 1100	3	2	2
Advanced Machining Skills*	ETCN 2000	3	2	3
CNC Machining I	ETCN 1300	3	1	4
Computer-Aided Manufacturing (MasterCam)	ETCN 2100	3	1	4
CNC Machining II	ETCN 2200	3	1	4
Industry and OSHA-10 Seminars*	ETCN 2400	1	0	2
Certificate totals		19	9	21

MANUFACTURING AUTOMATION and QUALITY (ETMQ)				
Precision Measurement and Geometric Dimensioning and Tolerance	ETCN 1200	3	2	2
Introduction to Digital Systems (PLCs)	ETEE 1800	3	2	2
Automated Machining Technology*	ETCN 2350	3	1	3
Introduction to Robotics and Control	ETME 1010	3	2	2
Automation Systems	ETME 2310	3	2	2
Manufacturing Quality Control*	ETCN 2360	3	2	2
Lean Manufacturing*	ETCN 2250	2	1	2
Industry and OSHA-10 Seminars*	ETCN 2400	1	0	2
Certificate totals		21	12	17

**New courses may not yet appear on schedule.*