Computer-Integrated Machining (Diploma) (D50210)

The Computer-Integrated Machining curriculum prepares students with the analytical, creative and innovative skills necessary to take a production idea from an initial concept through design, development and production, resulting in a finished product.

Coursework may include manual machining, computer applications, engineering design, computer-aided drafting (CAD), computer-aided machining (CAM), blueprint interpretation, advanced computerized numeric control (CNC) equipment, basic and advanced machining operations, precision measurement and high-speed multi-axis machining.

Graduates should qualify for employment as machining technicians in high-tech manufacturing, rapid-prototyping and rapid-manufacturing industries, specialty machine shops, fabrication industries, and high-tech or emerging industries such as aerospace, aviation, medical, and renewable energy, and to sit for machining certification examinations.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

				Class	Lab	Work/ Clinical	Credit
A. General Education Courses							
1. Required Courses							
ENG	111	Writing and Inquiry		3	0	0	3
		Social/Behavioral Sciences Elective *		3	0	0	3
B. Major Courses							
1. Core Courses							

To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.

				Class	Lab	Work/ Clinical	Credit
BPR	111	Print Reading		1	2	0	2
MAC	111	Machining Technology I		2	12	0	6
MAC	112	Machining Technology II		2	12	0	6
MAC	122	CNC Turning		1	3	0	2
2. Other Major Courses							
BPR	121	Blueprint Reading: Mechanical		1	2	0	2
MAC	113	Machining Technology III		2	12	0	6
MAC	124	CNC Milling		1	3	0	2
MAC	151	Machining Calculations		1	2	0	2
MEC	142	Physical Metallurgy		1	2	0	2
or							
WBL	112	Work-Based Learning I		0	0	20	2
C. Other Required Courses							
ACA	115	Success & Study Skills		0	2	0	1

Total Credit Hours   **37**

*Approved Electives are listed on the page before Course Descriptions.

SEMESTER SCHEDULE
COMPUTER-INTEGRATED MACHINING (DIPLOMA) (EVENING)

			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
ACA	115	Success & Study Skills	0	2	0	1
BPR	111	Print Reading	1	2	0	2
MAC	111	Machining Technology I	2	12	0	6
			3	16	0	9
First Year – Spring Semester						
ENG	111	Writing and Inquiry	3	0	0	3
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
		Social/Behavioral Sciences Elective *	3	0	0	3
			8	6	0	10
First Year – Summer Semester						
MAC	151	Machining Calculations	1	2	0	2
MEC	142	Physical Metallurgy	1	2	0	2
or						
WBL	112	Work-Based Learning I	0	0	20	2
			3	4	20	4
Second Year – Fall Semester						
BPR	121	Blueprint Reading: Mechanical	1	2	0	2
MAC	112	Machining Technology II	2	12	0	6
			3	14	0	8
Second Year – Spring Semester						
MAC	113	Machining Technology III	2	12	0	6
			2	12	0	6

Total Credit Hours   **37**

*Approved Electives are listed on the page before Course Descriptions.

COMPUTER-INTEGRATED MACHINING TECHNOLOGY (CERTIFICATE) (C50210) (EVENING)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
BPR	111	Print Reading	1	2	0	2
MAC	111	Machining Technology I	2	12	0	6
MAC	122	CNC Turning	1	3	0	2
MAC	124	CNC Milling	1	3	0	2
		Total Credit Hours				**12**

MACHINING TECHNOLOGY CERTIFICATE (C50210M)
COURSE REQUIREMENTS

			Class	Lab	Work/ Clinical	Credit
MAC	111	Machining Technology I	2	12	0	6
MAC	112	Machining Technology II	2	12	0	6
MAC	113	Machining Technology III	2	12	0	6
		Total Credit Hours				**18**