

MACHINIST/CNC OPERATOR

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 102	Applied Communications II		3	0	0	3
		Social/Behavioral Sciences Elective*		3	0	0	3
B. Major Courses							
1. Core Courses							
<i>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.</i>							
	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 111	Work-Based Learning I		0	0	10	1

	and						
	WBL	115	Work-Based Learning Seminar	1	0	0	1
C. Other Required Courses							
	ACA	122	College Transfer Success	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	122	College Transfer Success		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	102	Applied Communications II		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	111	Work-Based Learning I		0	0	10	1
		and					
WBL	115	Work-Based Learning Seminar		1	0	0	1
				—	—	—	—
				2-3	2-4	0-10	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

**CIM: 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