

## 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

				Class	Lab	Work Exp/ Clinical	Credit		
<b>A. General Education Courses</b>									
1. Required Courses									
	ENG	102	Applied Communications II	3	0	0	3		
	PSY	101	Applied Psychology	3	0	0	3		
<b>B. Major Courses</b>									
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	Blueprint 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		
<b>C. Other Major Courses</b>									
	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	141	Intro Manufacturing Processes	2	2	0	3		
			or						
	COE	112	Co-op Work Experience I	0	0	20	2		
<b>Total Credit Hours</b>							<b>36/37</b>		

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

Class	Lab	Work Exp/ Clinical	Credit				
<b>First Year – Fall Semester</b>							
BPR 111	Blueprint Reading	1	2	0	2		
MAC 111	Machining Technology I	<u>2</u>	<u>12</u>	<u>0</u>	<u>6</u>		
		3	14	0	8		
<b>First Year – Spring Semester</b>							
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		
PSY 101	Applied Psychology	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>		
		8	6	0	10		
<b>First Year – Summer Semester</b>							
MAC 151	Machining Calculations	1	2	0	2		
MEC 141	Intro Manufacturing Processes	2	2	0	3		
or							
COE 112	Co-op Work Experience I	<u>0</u>	<u>0</u>	<u>20</u>	<u>2</u>		
		3	4	20	5/7		
<b>Second Year – Fall Semester</b>							
BPR 121	Blueprint Reading: Mechanical	1	2	0	2		
MAC 112	Machining Technology II	<u>2</u>	<u>12</u>	<u>0</u>	<u>6</u>		
		3	14	0	8		
<b>Second Year – Spring Semester</b>							
MAC 113	Machining Technology III	<u>2</u>	<u>12</u>	<u>0</u>	<u>6</u>		
		2	12	0	6		
<b>Total Credit Hours</b>					<b>36/37</b>		

**SEMESTER SCHEDULE  
COMPUTER-INTEGRATED MACHINING (CERTIFICATE) (EVENING)**

**First Year – Fall Semester**

BPR	111	Blueprint Reading	1	2	0	2
MAC	111	Machining Technology I	<u>2</u>	<u>12</u>	<u>0</u>	<u>6</u>
			3	14	0	8

**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
PSY	101	Applied Psychology	<u>3</u>	<u>0</u>	<u>0</u>	<u>3</u>
			8	6	0	10

<b>Total Credit Hours</b>	<b>18</b>
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*Approve by RCC Curriculum Committee 3/22/11  
Effective Fall 2011*