

MECHANICAL ENGINEERING TECHNICIAN

Mechanical Engineering Technology (A40320)

ENGINEERING AND TECHNOLOGY PATHWAYS

These curriculums are designed to prepare students through the study and application of principles from mathematics, natural sciences, and technology and applied processes based on these subjects.

Course work includes mathematics, natural sciences, engineering sciences and technology.

Graduates should qualify to obtain occupations such as technical service providers, materials and technologies testing services, process improvement technicians, engineering technicians, industrial and technology managers, or research technicians.

PROGRAM DESCRIPTION

A course of study that prepares the students to use basic engineering principles and technical skills to design, develop, test, and troubleshoot projects involving mechanical systems. Includes instruction in principles of mechanics, applications to specific engineering systems, design testing procedures, prototype and operational testing and inspection procedures, manufacturing system-testing procedures, test equipment operation and maintenance, computer applications, critical thinking, planning and problem solving, and oral and written communications. Graduates of the curriculum will find employment opportunities in the manufacturing or service sectors of engineering technology. Engineering technicians may obtain professional certification by application to organizations such as ASQC, SME, and NICET.

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
ENG 112 Writing/Research in the Disciplines	3	0	0	3
or				
COM 231 Public Speaking	3	0	0	3
MAT 171 Precalculus Algebra	3	2	0	4
Humanities/Fine Arts Elective*	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.

DFT	151	CAD I	2	3	0	3
DFT	153	CAD III	2	3	0	3
EGR	250	Statics/Strengths of Materials	4	3	0	5
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
MEC	161	Manufacturing Process I	3	0	0	3
MEC	180	Engineering Materials	2	3	0	3
PHY	131	Physics-Mechanics	3	2	0	4
	or					
PHY	151	College Physics I	3	2	0	4
2. Other Major Courses						
DFT	152	CAD II	2	3	0	3
ELC	112	DC/AC Electricity	3	6	0	5
	or					
ELC	131	Circuit Analysis I	3	3	0	4
ISC	132	Manufacturing Quality Control	2	3	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4
MEC	130	Mechanisms	2	2	0	3
MEC	270	Machine Design	3	3	0	4
MEC	271	Machine Design Project	0	3	0	1
	or					
WBL	111	Work-Based Learning I	0	0	10	1
	and					
WBL	115	Work-Based Learning Seminar I	1	0	0	1
PLA	120	Injection Molding	2	3	0	3
C. Other Required Courses						
ACA	122	College Transfer Success	0	2	0	1

Total Credit Hours

66-68

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

**SEMESTER SCHEDULE
MECHANICAL ENGINEERING TECHNOLOGY (DAY)**

			Work/			
			Class	Lab	Clinical	Credit
First Year – Fall Semester						
ACA	122	College Transfer Success	0	2	0	1
DFT	151	CAD I	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MEC	130	Mechanisms	2	2	0	3
MEC	161	Manufacturing Process I	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			—	—	—	—
			13	9	0	17

First Year – Spring Semester							
DFT	152	CAD II	2	3	0	3	
ELC	112	DC/AC Electricity	3	6	0	5	
		or					
ELC	131	Circuit Analysis I	3	3	0	4	
ENG	112	Writing/Research in the Disciplines	3	0	0	3	
		or					
COM	231	Public Speaking	3	0	0	3	
MAT	172	Precalculus Trigonometry	3	2	0	4	
MEC	180	Engineering Materials	2	3	0	3	
			13	11-14	0	17-18	
Second Year – Fall Semester							
DFT	153	CAD III	2	3	0	3	
EGR	250	Statics & Strength of Materials	4	3	0	5	
ISC	132	Manufacturing Quality Control	2	2	0	3	
PHY	131	Physics-Mechanics	3	2	0	4	
		or					
PHY	151	College Physics I	3	2	0	4	
PLA	120	Injection Molding	2	3	0	3	
			13	13	0	18	
Second Year – Spring Semester							
HYD	110	Hydraulics/Pneumatics I	2	3	0	3	
MEC	270	Machine Design	3	3	0	4	
MEC	271	Machine Design Project	0	3	0	1	
		or					
WBL	111	Work-Based Learning I	0	0	10	1	
		and					
WBL	115	Work-Based Learning Seminar I	1	0	0	1	
		Humanities/Fine Arts Elective*	3	0	0	3	
		Social/Behavioral Sciences Elective*	3	0	0	3	
			11	9	0	14-15	
Total Credit Hours					66-68		

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

SEMESTER SCHEDULE MECHANICAL ENGINEERING TECHNOLOGY (DIPLOMA) (D40320) (DAY)

			Work/ Class Lab Clinical Credit			
First Year – Fall Semester						
ACA	122	College Transfer Success	0	2	0	1
DFT	151	CAD I	2	3	0	3

ENG	111	Writing and Inquiry	3	0	0	3
MEC	130	Mechanisms	2	2	0	3
MEC	161	Manufacturing Processes I	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			—	—	—	—
			13	9	0	17
First Year – Spring Semester						
DFT	152	CAD II	2	3	0	3
ELC	112	DC/AC Electricity	3	6	0	5
		or				
ELC	131	Circuit Analysis I	3	3	0	4
MAT	172	Precalculus Trigonometry	3	2	0	4
MEC	180	Engineering Materials	2	3	0	3
			—	—	—	—
			13	11-14	0	14-15
Second Year – Fall Semester						
DFT	153	CAD III	2	3	0	3
ISC	132	Manufacturing Quality Control	2	3	0	3
PHY	131	Physics-Mechanics	3	2	0	4
		or				
PHY	151	College Physics I	3	2	0	4
		Humanities/Fine Arts Elective*	3	0	0	3
			—	—	—	—
			7	8	0	13
Total Credit Hours						44-45

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

SEMESTER SCHEDULE
MET: COMPUTER-AIDED DRAFTING (CERTIFICATE) (C40320)
Drafting & Design

			Work/			
			Class	Lab	Clinical	Credit
DFT	151	CAD I	2	3	0	3
DFT	152	CAD II	2	3	0	3
DFT	153	CAD III	2	3	0	3
ELC	112	DC/AC Electricity	3	6	0	5
		or				
ELC	131	Circuit Analysis I	3	3	0	4
MEC	130	Mechanisms	2	2	0	3
			—	—	—	—
			11	14-17	0	16-17
Total Credit Hours						16-17