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	Work/ Lab	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
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	151	College Physics I	3	2	0	4
2.	Other Major Courses						
	DFT	110	Basic Drafting	1	2	0	2
	DFT	115	Architectural Drafting	1	2	0	2
	DFT	152	CAD II	2	3	0	3
	ISC	132	Manufacturing Quality Control	2	3	0	3
	MAT	172	Precalculus Trigonometry	3	2	0	4
	MAT	271	Calculus I	3	2	0	4
	MEC	110	Introduction to CAD/CAM	1	2	0	2
	MEC	270	Machine Design	3	3	0	4
	MEC	271	Machine Design Project	0	3	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				**69**

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

SEMESTER SCHEDULE

MECHANICAL ENGINEERING TECHNOLOGY (DAY)

			Class	Lab	Work/ Clinical	Credit
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
DFT	110	Basic Drafting	1	2	0	2
DFT	151	CAD I	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MEC	161	Manufacturing Process I	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			12	9	0	16
		First Year – Spring Semester				
DFT	115	Architectural Drafting	1	2	0	2
DFT	152	CAD II	2	3	0	3
ENG	112	Writing/Research in the Disciplines	3	0	0	3
MAT	172	Precalculus Trigonometry	3	0	0	3
MEC	180	Engineering Materials	2	3	0	3
		Humanities/Fine Arts Elective*	3	0	0	3

			14	10	0	18
		Second Year – Fall Semester				
DFT	153	CAD III	2	3	0	3
EGR	250	Statics & Strength of Materials	4	3	0	5
MAT	271	Calculus I	3	2	0	4
ISC	132	Manufacturing Quality Control	2	2	0	3
PHY	151	College Physics I	3	2	0	4
PLA	120	Injection Molding	2	3	0	3
			16	15	0	22
		Second Year – Spring Semester				
HYD	110	Hydraulics/Pneumatics I	2	3	0	3
MEC	110	Introduction to CAD/CAM	1	2	0	2
MEC	270	Machine Design	3	3	0	4
MEC	271	Machine Design Project	0	3	0	1
		Social/Behavioral Sciences Elective*	3	0	0	3
			9	11	0	13

Total Credit Hours **69**

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

SEMESTER SCHEDULE

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

			Class	**Lab**	**Work/ Clinical**	**Credit**
		First Year – Fall Semester				
ACA	122	College Transfer Success	0	2	0	1
DFT	110	Basic Drafting	1	2	0	2
DFT	151	CAD I	2	3	0	3
ENG	111	Writing and Inquiry	3	0	0	3
MEC	161	Manufacturing Processes I	3	0	0	3
MAT	171	Precalculus Algebra	3	2	0	4
			12	9	0	16
		First Year – Spring Semester				
DFT	115	Architectural Drafting	1	2	0	2
DFT	152	CAD II	2	3	0	3
MAT	172	Precalculus Trigonometry	3	2	0	4

MEC	180	Engineering Materials	2	3	0	3
		Humanities/Fine Arts Elective*	3	0	0	3
			11	10	0	15
		Second Year – Fall Semester				
DFT	153	CAD III	2	3	0	3
ISC	132	Manufacturing Quality Control	2	3	0	3
PHY	151	College Physics I	3	2	0	4
			7	8	0	10

Total Credit Hours **41**

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

SEMESTER SCHEDULE

MECHANICAL ENGINEERING TECHNOLOGY/COMPUTER-AIDED DRAFTING (CERTIFICATE) (C40320)

			Class	**Lab**	**Work/ Clinical**	**Credit**
DFT	110	Basic Drafting	1	2	0	2
DFT	115	Architectural Drafting I	1	2	0	2
DFT	151	CAD I	2	3	0	3
DFT	152	CAD II	2	3	0	3
DFT	153	CAD III	2	3	0	3
			8	13	0	13

Total Credit Hours **13**