Computerized Manufacturing & Machining

Somerset Community College

Program Overview

somerset.kctcs.edu

(Formerly Machine Tool Technology)

Machinist Diploma and CNC Machinist Diploma

ADVISOR

Curtis Cash, Program Coordinator (606) 451-6754 curtis.cash@kctcs.edu



The Computerized Manufacturing & Machining program is a sequence of courses that prepares students for careers in the machining and manufacturing field. This program provides learning opportunities to develop

academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement.

The program emphasizes a combination of machine tool theory and practical application necessary for successful employment. Students are eligible to receive any of our four certificates or two diplomas after successfully completing the specified courses. We also offer an AAS Degree in General Occupational/Technical Studies.

Our up-to-date laboratory facility and equipment, and our well prepared faculty are just some of the reasons why Somerset Community College has remained a strong force for serious technical preparation in the machining trades.

COMPUTERIZED MANUFACTURING & MACHINING CREDENTIALS:

CERTIFICATES:

- •Exploratory Machining I (13 credit hours)
- •Machine Tool Operator I (20 credit hours)
- •CNC Operator (31 credit hours)
- •Machine Tool Operator II (35 credit hours)

DIPLOMAS:

- Machinist (47 credit hours)
- •CNC Machinist (59 credit hours)

ASSOCIATE IN APPLIED SCIENCE DEGREE: In General Occupational/Technical Studies AAS-GOTS (60 credit hours)

ABOUT THE INDUSTRY:

Machinists are highly skilled operators of machine tools that are used to make metal or non-metallic parts. Working from blueprints or sketches, a machinist will make or repair parts for a wide variety of tools or machines.

CAREER OPPORTUNITIES:

A career in Computerized Manufacturing and Machining is extremely rewarding both in attaining the ability to produce items used in everyday life and in future job security as a highly skilled and proficient tradesman.

INSTRUCTIONAL PHILOSOPHY:

To increase student success, our program has chosen to stress the learning of functional tasks rather than to promote an environment where students choose their own projects. All of our laboratory exercises are designed to introduce students to a broad scope of tasks typically performed on conventional or CNC machines. Our technical advisory group annually reviews our curriculum. They guide our decisions to include new topics, delete out-of-date ones, and to continue those that are still viable.

Our conventional machining program stresses the set up and operation of lathes and vertical mills for a wide variety of processes. The classes provide instruction in blueprint reading, shop math,

measurement and inspection, job planning, safety, and general machining theory. Our CNC program also emphasizes the set up, operation, and programming of vertical mills and lathes; to include aspects of wire and sinker EDM.

In manual programming courses, students learn proper formatting of CNC code, calculations related to determining coordinate data, proper use of programming techniques such as the use of sub programming, and experience cutting parts using their own programs on our CNC machines. In computer assisted programming classes students learn how to use software such as Mastercam to generate machine code for CNC mills and lathes. All classes are structured with time allocated for lecture/demonstrations and hands-on laboratory time.



KCTCS is an equal opportunity employer and education institution.

HIGHER EDUCATION BEGINS HERE

Computerized Manufacturing & Machining

REQUIRED COURSES FOR MACHINIST DIPLOMA

Somerset Community College Advising Planner

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SEMESTER COURSE LISTING

		Credit	Grade	Class (Alternative) Credit	
One (1) General Education class from Area 1		3		SEMESTER ONE (16 HOURS) CMM 114	
(Writing/Accessing Information, Oral Communication, Humanities/Heritage)				CMM 130	
	Computer Literacy	3		MAT 116 ()	
MAT 116	Technical Mathematics	3		Computer Literacy ()	
BRX 112	Blueprint Reading for Machinist	4		SEMESTER TWO (16 HOURS)	
CMM 114	Fundamentals of Machine Tool	7		CMM 124 ()	
CMM 118	Metrology	2		CMM 132 ()	
CMM 124	Applied Machining	6		BRX 112 ()	
CMM 130	Manual Programming	3			
CMM 132	CAD/CAM/CNC	3		SEMESTER THREE (8 HOURS) CMM 118 ()	
CMM 214	Industrial Machining	6		CMM 220 ()	
CMM 220	Advanced Industrial Machining 1	4		CMM 222 ()	
CMM 222	Advanced Industrial Machining 2	2		SEMESTER FOUR (7 HOURS)	
CMM 298	Practicum OR	1		CMM 214 ()	
CMM 299	Cooperative Education Program	(1)		CMM 298 OR ()	
CIVIIVI 277	cooperative Education (Togram	(1)		CMM 299 ()	
TOTAL HOURS FOR PROGRAM – 47				TOTAL HOURS FOR PROGRAM – 47	
REQUIRED COURSES FOR CNC MACHI		Credit Grade		SEMESTER COURSE LISTING Class (Alternative) Credit SEMESTER ONE (16 HOURS)	
One (1) General Education class from Area 1				CMM 114 ()	
(Writing/Accessing Information, Oral Communication, Humanities/Heritage					
MATAAC	Computer Literacy	3		MAT 116 () Computer Literacy ()	
MAT 116	Technical Mathematics	3		SEMESTER TWO (16 HOURS)	
BRX 112	Blueprint Reading for Machinist	4		CMM 124 ()	
CMM 114	Fundamentals of Machine Tool	7		CMM 132	
CMM 118	Metrology	2		BRX 112 ()	
CMM 124	Applied Machining	6		GEN ED COURSE ()	
CMM 130	Manual Programming	3		SEMESTER THREE (14 HOURS)	
CMM 132	CAD/CAM/CNC	3		CMM 118 ()	
CMM 214	Industrial Machining	6		CMM 220 ()	
CMM 220	Advanced Industrial Machining 1	4		CMM 222 ()	
CMM 222	Advanced Industrial Machining 2	2		\	
CMM 230	Conversational Programming	6		SEMESTER FOUR (7 HOURS) CMM 214 ()	
CMM 240	Introduction to 3-D Programming	6		CMM 214 ()	
CMM 298	Practicum <u>OR</u>	1		CMM 298 OR ()	
CMM 299	Cooperative Education Program	(1)		CMM 299 ()	
	TOTAL HOURS FOR PROGR	AM – 59		TOTAL HOURS FOR PROGRAM – 59	
STUDENT		ID NO		DATE	
IGNATURE		ADVISO	ADVISOR		