

Computerized Manufacturing & Machining

Somerset Community College
Program Overview

(Formerly Machine Tool Technology)

Machinist Diploma and CNC Machinist Diploma

somerset.kctcs.edu

ADVISOR

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PROGRAM DETAILS

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)

*A Federal Gainful Employment program

Learn more about it on SCC's website:
[somerset.kctcs.edu/Academics/Programs of Study/Computerized Manufacturing](http://somerset.kctcs.edu/Academics/Programs%20of%20Study/Computerized%20Manufacturing)

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 educational and employment opportunity institution.

KENTUCKY COMMUNITY & TECHNICAL COLLEGE SYSTEM

Computerized Manufacturing & Machining

Somerset Community College
Advising Planner

(Formerly Machine Tool Technology)

Machinist Diploma and CNC Machinist Diploma

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REQUIRED COURSES FOR MACHINIST DIPLOMA

	Credit	Grade
One (1) General Education class from Area 1 (Writing/Accessing Information, Oral Communication, Humanities/Heritage)	3	_____
Computer Literacy	3	_____
MAT 116 Technical Mathematics	3	_____
BRX 112 Blueprint Reading for Machinist	4	_____
CMM 114 Fundamentals of Machine Tool	7	_____
CMM 118 Metrology	2	_____
CMM 124 Applied Machining	6	_____
CMM 130 Manual Programming	3	_____
CMM 132 CAD/CAM/CNC	3	_____
CMM 214 Industrial Machining	6	_____
CMM 220 Advanced Industrial Machining 1	4	_____
CMM 222 Advanced Industrial Machining 2	2	_____
CMM 298 Practicum OR	1	_____
CMM 299 Cooperative Education Program	(1)	_____
TOTAL HOURS FOR PROGRAM – 47		

SEMESTER COURSE LISTING

Class	(Alternative)	Credit
SEMESTER ONE (16 HOURS)		
CMM 114	(_____)	_____
CMM 130	(_____)	_____
MAT 116	(_____)	_____
Computer Literacy	(_____)	_____
SEMESTER TWO (16 HOURS)		
CMM 124	(_____)	_____
CMM 132	(_____)	_____
BRX 112	(_____)	_____
GEN ED COURSE	(_____)	_____
SEMESTER THREE (8 HOURS)		
CMM 118	(_____)	_____
CMM 220	(_____)	_____
CMM 222	(_____)	_____
SEMESTER FOUR (7 HOURS)		
CMM 214	(_____)	_____
CMM 298 OR	(_____)	_____
CMM 299	(_____)	_____
TOTAL HOURS FOR PROGRAM – 47		

REQUIRED COURSES FOR CNC MACHINIST DIPLOMA

	Credit	Grade
One (1) General Education class from Area 1 (Writing/Accessing Information, Oral Communication, Humanities/Heritage)	3	_____
Computer Literacy	3	_____
MAT 116 Technical Mathematics	3	_____
BRX 112 Blueprint Reading for Machinist	4	_____
CMM 114 Fundamentals of Machine Tool	7	_____
CMM 118 Metrology	2	_____
CMM 124 Applied Machining	6	_____
CMM 130 Manual Programming	3	_____
CMM 132 CAD/CAM/CNC	3	_____
CMM 214 Industrial Machining	6	_____
CMM 220 Advanced Industrial Machining 1	4	_____
CMM 222 Advanced Industrial Machining 2	2	_____
CMM 230 Conversational Programming	6	_____
CMM 240 Introduction to 3-D Programming	6	_____
CMM 298 Practicum OR	1	_____
CMM 299 Cooperative Education Program	(1)	_____
TOTAL HOURS FOR PROGRAM – 59		

SEMESTER COURSE LISTING

Class	(Alternative)	Credit
SEMESTER ONE (16 HOURS)		
CMM 114	(_____)	_____
CMM 130	(_____)	_____
MAT 116	(_____)	_____
Computer Literacy	(_____)	_____
SEMESTER TWO (16 HOURS)		
CMM 124	(_____)	_____
CMM 132	(_____)	_____
BRX 112	(_____)	_____
GEN ED COURSE	(_____)	_____
SEMESTER THREE (14 HOURS)		
CMM 118	(_____)	_____
CMM 220	(_____)	_____
CMM 222	(_____)	_____
CMM 230	(_____)	_____
SEMESTER FOUR (7 HOURS)		
CMM 214	(_____)	_____
CMM 240	(_____)	_____
CMM 298 OR	(_____)	_____
CMM 299	(_____)	_____
TOTAL HOURS FOR PROGRAM – 59		

STUDENT _____

ID NO. _____ DATE _____

SIGNATURE _____

ADVISOR _____