



Program Description

The Computerized Machining Technology program consists of on-line lectures, hands-on face to face CAD/CAM and flex-lab experiences. Hands-on application through the completion of projects in the flex-lab will be emphasized. As a result, students will become familiar with the various machines, methods, and safety practices associated with the machining industry. Students will have several career options to choose from, they include: Inspector, Apprentice, CNC Operator, CNC Programmer, Tool & Die Moldmaker, Diemaker, Tool Designer, Cost Estimator, Shop Manager, or General Machinist.

Qualified applicants should be aware that program class sizes are limited, which may delay acceptance into the program.

You may be required to complete additional (or less) coursework, dependent upon the results of your Accuplacer placement test and/or previous coursework completed or certifications earned.

Program Core Competencies

1. Conduct computer software operation (CAD/CAM)
2. Develop computer machining skills (CNC)
3. Develop safe machining practices
4. Produce quality machined parts
5. Measure quality machined parts

Degrees and Diplomas

CNC Programmer
A.A.S. Degree

Toolmaker
A.A.S. Degree

CNC Programmer
Diploma

Toolmaker
Diploma

CNC Machinist
Certificate

Manual Machinist
Certificate



Production



Offered on Faribault Campus

Admission Date: Fall and Spring Semester

CNC Programmer A.A.S. Degree (71 Credits)

Pending MnSCU Approval


REQUIRED TECHNICAL COURSES	52
CMT01100 Intro to Manufacturing I	4
CMT01110 Intro to SolidWorks/Blueprint Reading	3
CMT01120 Milling	2
CMT01130 Turning	2
CMT01140 CNC Milling	2
CMT01150 CNC Turning	2
CMT01200 Intro to Manufacturing II	3
CMT01210 Intro to MasterCam	3
CMT01220 Milling II	2
CMT01230 Turning II	2
CMT01240 CNC Milling II	2
CMT01250 CNC Turning II	2
CMT01260 Surface Grinder	1
CMT02110 Advanced SolidWorks	3
CMT02140 CNC Milling III	3
CMT02150 CNC Turning III	3
CMT02170 Quality Concepts	2
CMT02180 Machining Computations	2
CMT02210 Advanced MasterCam	3
CMT02240 CNC Milling IV	3
CMT02270 Materials	3

REQUIRED LIBERAL ARTS & SCIENCES	3
<i>To complete an A.A.S. Degree, students must complete 15 MNTC credits from 3 of the 10 MNTC Goal Areas (combination of required and recommended). See pgs. 156-161 for more information. Courses must be approved by advisor/faculty.</i>	

<i>MNTC - Goal Area 1: Communications</i>	
SPCH100 Interpersonal Communication	3
or	
SPCH110 Public Speaking	3
or	
SPCH120 Small Group Communication	3

ELECTIVE CREDITS	0-1
TECHNICAL COURSES	
CMT02295 Advanced Project Open Lab	1-6
LIBERAL ARTS & SCIENCES	
15-16	
<i>Courses must be approved by advisor/faculty.</i>	
<i>Recommended:</i>	
<i>MNTC - Goal Area 1: Communications</i>	
ENGL100 Composition	4
<i>MNTC - Goal Area 2: Critical Thinking</i>	
HUM100 Critical Thinking	3
<i>MNTC - Goal Area 3: Natural Sciences</i>	
CHEM108 Introduction to Chemistry	4
PHYS101 Introductory Physics	3
<i>MNTC - Goal Area 4: Mathematical/Logical Reasoning</i>	
MATH120 College Algebra	4

 See pages 202-250 to find course descriptions for the courses listed above.

 This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information visit online.southcentral.edu

Toolmaker

A.A.S. Degree



Offered on Faribault Campus

Admission Date: Fall and Spring Semester

Toolmaker A.A.S. Degree (72 Credits)

Pending MnSCU Approval

REQUIRED TECHNICAL COURSES

CMT01100	Intro to Manufacturing I	4
CMT01110	Intro to SolidWorks/Blueprint Reading	3
CMT01120	Milling	2
CMT01130	Turning	2
CMT01140	CNC Milling	2
CMT01150	CNC Turning	2
CMT01200	Intro to Manufacturing II	3
CMT01210	Intro to MasterCam	3
CMT01220	Milling II	2
CMT01230	Turning II	2
CMT01240	CNC Milling II	2
CMT01250	CNC Turning II	2
CMT01260	Surface Grinder	1
CMT02110	Advanced SolidWorks	3
CMT02170	Quality Concepts	2
CMT02180	Machining Computations	2
CMT02190	Mold/Die I	3
CMT02210	Advanced MasterCam	3
CMT02270	Materials	3
CMT02290	Mold/Die II	5

51

REQUIRED LIBERAL ARTS & SCIENCES

To complete an A.A.S. Degree, students must complete 15 MNTC credits from 3 of the 10 MNTC Goal Areas (combination of required and recommended). See pgs. 156-161 for more information. Courses must be approved by advisor/faculty.

MNTC - Goal Area 1: Communications

SPCH100	Interpersonal Communication	3
	or	
SPCH110	Public Speaking	3
	or	
SPCH120	Small Group Communication	3

ELECTIVE CREDITS

0-3

TECHNICAL COURSES

CMT02295	Advanced Project Open Lab	1-6
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LIBERAL ARTS & SCIENCES

15-18

Courses must be approved by advisor/faculty.

Recommended:

MNTC - Goal Area 1: Communications

ENGL100	Composition	4
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MNTC - Goal Area 2: Critical Thinking

HUM100	Critical Thinking	3
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MNTC - Goal Area 3: Natural Sciences

CHEM108	Introduction to Chemistry	4
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PHYS101	Introductory Physics	3
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MNTC - Goal Area 4: Mathematical/Logical Reasoning

MATH120	College Algebra	4
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Course Descriptions See pages 202-250 to find course descriptions for the courses listed above.

ONLINE Options This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information visit online.southcentral.edu



Offered on Faribault Campus

Admission Date: Fall and Spring Semester

CNC Programmer Diploma (64 Credits)

Pending MnSCU Approval

REQUIRED TECHNICAL COURSES

CMT01100	Intro to Manufacturing I	61	4
CMT01110	Intro to SolidWorks/Blueprint Reading	3	3
CMT01120	Milling	2	2
CMT01130	Turning	2	2
CMT01140	CNC Milling	2	2
CMT01150	CNC Turning	2	2
CMT01200	Intro to Manufacturing II	3	3
CMT01210	Intro to MasterCam	3	3
CMT01220	Milling II	2	2
CMT01230	Turning II	2	2
CMT01240	CNC Milling II	2	2
CMT01250	CNC Turning II	2	2
CMT01260	Surface Grinder	1	1
CMT02110	Advanced SolidWorks	3	3
CMT02140	CNC Milling III	3	3
CMT02150	CNC Turning III	3	3
CMT02160	Surface Grinder II	3	3
CMT02170	Quality Concepts	2	2
CMT02180	Machining Computations	2	2
CMT02190	Mold/Die I	3	3
CMT02210	Advanced MasterCam	3	3
CMT02240	CNC Milling IV	3	3
CMT02250	CNC Turning IV	3	3
CMT02270	Materials	3	3

REQUIRED LIBERAL ARTS & SCIENCES

3

MNTC - Goal Area 1: Communications


SPCH100	Interpersonal Communication	3
	<i>or</i>	
SPCH110	Public Speaking	3
	<i>or</i>	
SPCH120	Small Group Communication	3

ELECTIVE CREDITS

TECHNICAL COURSES

CMT02295	Advanced Project Open Lab	1-6
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 See pages 202-250 to find course descriptions for the courses listed above.

 This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information visit online.southcentral.edu

Toolmaker Diploma



Offered on Faribault Campus

Admission Date: Fall and Spring Semester

Toolmaker Diploma (64 Credits)

Pending MnSCU Approval

REQUIRED TECHNICAL COURSES

CMT01100	Intro to Manufacturing I	4
CMT01110	Intro to SolidWorks/Blueprint Reading	3
CMT01120	Milling	2
CMT01130	Turning	2
CMT01140	CNC Milling	2
CMT01150	CNC Turning	2
CMT01200	Intro to Manufacturing II	3
CMT01210	Intro to MasterCam	3
CMT01220	Milling II	2
CMT01230	Turning II	2
CMT01240	CNC Milling II	2
CMT01250	CNC Turning II	2
CMT01260	Surface Grinder	1
CMT02110	Advanced SolidWorks	3
CMT02140	CNC Milling III	3
CMT02160	Surface Grinder II	3
CMT02170	Quality Concepts	2
CMT02180	Machining Computations	2
CMT02190	Mold/Die I	3
CMT02210	Advanced MasterCam	3
CMT02270	Materials	3
CMT02280	Wire EDM	2
CMT02285	Sinker EDM	2
CMT02290	Mold/Die II	5

REQUIRED LIBERAL ARTS & SCIENCES

3

MNTC - Goal Area 1: Communications

SPCH100	Interpersonal Communication	3
	<i>or</i>	
SPCH110	Public Speaking	3
	<i>or</i>	
SPCH120	Small Group Communication	3

ELECTIVE CREDITS

TECHNICAL COURSES

CMT02295	Advanced Project Open Lab	1-6
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Course Descriptions See pages 202-250 to find course descriptions for the courses listed above.

ONLINE Options This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information visit online.southcentral.edu



Offered on Faribault Campus

Admission Date: Fall and Spring Semester

CNC Machinist/Operator Certificate (30 Credits)

Pending MnSCU Approval

REQUIRED TECHNICAL COURSES		30
CMT01100	Intro to Manufacturing I	4
CMT01110	Intro to SolidWorks/Blueprint Reading	3
CMT01120	Milling	2
CMT01130	Turning	2
CMT01140	CNC Milling	2
CMT01150	CNC Turning	2
CMT01200	Intro to Manufacturing II	3
CMT01210	Intro to MasterCam	3
CMT01220	Milling II	2
CMT01230	Turning II	2
CMT01240	CNC Milling II	2
CMT01250	CNC Turning II	2
CMT01260	Surface Grinder	1

Course Descriptions See pages 202-250 to find course descriptions for the courses listed above.

ONLINE Options This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information visit online.southcentral.edu

Integrated Manufacturing - Manual Machinist *Certificate*



Offered on Faribault Campus

Admission Date: Fall and Spring Semester

Integrated Manufacturing-Manual Machinist Certificate (22 Credits) *Pending MnSCU Approval*

REQUIRED TECHNICAL COURSES	22
CMT01100 Intro to Manufacturing I	4
CMT01110 Intro to SolidWorks/Blueprint Reading	3
CMT01120 Milling	2
CMT01130 Turning	2
CMT01200 Intro to Manufacturing II	3
CMT01210 Intro to MasterCam	3
CMT01220 Milling II	2
CMT01230 Turning II	2
CMT01260 Surface Grinder	1

Course Descriptions

See pages 202-250 to find course descriptions for the courses listed above.

ONLINE Options

This program has an online option for one or more of its courses. Contact Advisor for online option availability. For more information visit online.southcentral.edu