



**South Central College
Program Design**

DIP 2443/3459 Machine Tool Technology

Program Information

Instructional Level Technical Diploma

Career Cluster Engineering, Manufacturing & Technology

Description

The diploma program consists of opportunities for students to work with multiple aspects of Machine Tool Technology including working with engineering drawings, CNC programming, lathe turning, vertical milling and grinding, jig and fixtures, and mold and die. During this diploma program, learners will have the opportunity to receive national credentials from the National Institute for Metalworking Skills (NIMS).

Program Admission Dates (Fall and/or Spring)

Fall

Program Location (North Mankato and/or Faribault)

North Mankato and Faribault

Program Student Learning Outcomes

- 1 Operate industry-specific computer software
- 2 Demonstrate computer machining skills
- 3 Demonstrate safe machining practices
- 4 Produce quality machined parts
- 5 Evaluate the quality of machined parts against industry standards

Program Configurations

Fall 2018

Credits

Technical Course	60
Liberal Arts & Sciences	6
Total Credits	66

Semester 1

Course #	Course Title	Credits	Function
MTT 1110	CNC Milling Level I	5	Technical Course
MTT 1120	CNC Turning Level I	5	Technical Course
MTT 1130	Job Planning, Benchwork and Layout Level I	3	Technical Course
MTT 1140	Measurement, Materials, and Safety Level I	3	Technical Course
CMAE 1528	Career Success Skills	1	Technical Course

Semester 2

Course #	Course Title	Credits	Function
MTT 1210	Concept Engineering I	4	Technical Course
MTT 1220	CNC Programming I	4	Technical Course
MTT 1230	Quality Assurance I	2	Technical Course
MTT 1240	Applications I	3	Technical Course
LAS Elective	LAS Elective	3	Liberal Arts & Sciences

Semester 3

Course #	Course Title	Credits	Function
MTT 2110	Concept Engineering II	4	Technical Course
MTT 2120	CNC Programming II	4	Technical Course
MTT 2130	Quality Assurance II	2	Technical Course
MTT 2140	Applications	3	Technical Course
COMM 120	Small Group Communications	3	Liberal Arts & Sciences

Semester 4

Course #	Course Title	Credits	Function
MTT 2210	Concept Engineering III	4	Technical Course
MTT 2220	CNC Programming III	4	Technical Course
MTT 2230	Quality Assurance III	2	Technical Course
MTT 2240	Applications III	3	Technical Course
MTT 2250	MTT Capstone	4	Technical Course

Program Course List

Number	Title	Credits	Pre/Corequisites
MTT 1230	Quality Assurance I	2	MTT 1130 and MTT 1140
MTT 2230	Quality Assurance III	2	MTT 2130

MTT 2240	Applications III	3	MTT 2140
MTT 1110	CNC Milling Level I	5	Declare MTT as a major.
MTT 1120	CNC Turning Level I	5	Declare MTT as a major.
MTT 1130	Job Planning, Benchwork and Layout Level I	3	Declare MTT as a major.
MTT 1140	Measurement, Materials and Safety Level I	3	Declare MTT as a major.
MTT 1150	Machining Computations	1	Declare MTT as a major.
MTT 1210	Concept Engineering I	4	MTT 1130 and MTT 1140
MTT 1220	CNC Programming I	4	MTT 1110 and MTT 1120
MTT 1240	Applications I	3	MTT 1110 and MTT 1120
MTT 2110	Concept Engineering II	4	MTT 1210
MTT 2120	CNC Programming II	4	MTT 1220
MTT 2130	Quality Assurance II	2	MTT 1230
MTT 2140	Applications II	3	MTT 1240
MTT 2210	Concept Engineering III	4	MTT 2110
MTT 2220	CNC Programming III	4	MTT 2120
MTT 2250	MTT Capstone	4	MTT 2130 and MTT 2140