

# MACHINING LEVEL 1-CNC MILLING, SC

## Program Description

This skills certificate will introduce students to computer numerical control (CNC) milling operations, program formats, and machine setups. G and M codes, control functions, the letter address system, and math issues related to CNC mills are included. Students will program, set-up and produce a variety of CNC milling projects. This skills certificate will prepare students to take four credentialing exams: 1) Materials, Measurement, and Safety, 2) Job Planning, Benchwork, and Layout, 3) CNC Milling-Operations, and 4) CNC Milling-Programming, Setup, and Operations through the National Institute for Metalworking (NIMS) Machining Level 1, an 11-part series of tests for entry-level positions. Students must pass all coursework with a score of 70% or higher.

This program is not eligible for financial aid. However, it may be eligible for scholarship funding if the student is awarded scholarships.

Machining Career Map (<https://sites.tmcc.edu/flipbook/career-maps/>)

## Recommended Course Schedule

1st semester	Units
MTT 101 Introduction to Machine Shop	3
MTT 110 Machine Shop II	3
MTT 232 Computer Numerical Control II	4
MTT 292 Computer-Aided Manufacturing I	4
<b>Semester Total</b>	<b>14</b>
<b>Total Units</b>	<b>14</b>

## Program Requirements

Skills Certificates can consist of a single course or a short set of courses that provide training for entry-level positions or career advancement. These short-term certificates may also prepare students to take state, national and/or industry-recognized certifications or licensing exams.

Skills certificates are awarded upon completion of coursework and marked on a student's transcripts at the end of the semester. Students cannot declare a skills certificate as one's major. Skills Certificates are not eligible for Financial Aid.

To earn a skills certificate, students must:

1. Maintain a minimum cumulative GPA of 2.0.
2. Have no financial or library obligation to the college.

Code	Title	Units
<b>Certificate Requirements</b>		
MTT 101	Introduction to Machine Shop	3
MTT 110	Machine Shop II	3
MTT 232	Computer Numerical Control II	4
MTT 292	Computer-Aided Manufacturing I	4
<b>Total Units</b>		<b>14</b>

## Program Outcomes

Students completing the certificate will:

PSLO1: Write ISO standard G-Code programs for CNC milling operations.

PSLO2: Set-up, operate, and produce a finished product using CNC milling equipment.

PSLO3: Employ appropriate workplace skills, including the application of personal and mechanical safety measures for CNC mill equipment.