

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: CNC/Machine Tools

Course Abbreviation and Number: MCT 1280

Credit Hours: 3

Course Type: Lecture/Lab

Course Description: Students will learn the programming and operation of Computer Numerically Controlled (CNC) machine tools. Manual programming of two and three axis mills and lathes using canned cycles will be covered. Topics discussed will include CNC machine components, absolute and incremental programming, preparatory functions (G-codes), miscellaneous functions (M codes), work piece offsets, tool length offsets, cutter compensation and cutting tools and workholding methods for CNC. Lab projects provide hands-on experience for students on CNC controllers.

Prerequisite: MCT 1270.

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Write basic word address programs for CNC mills and lathes.
 2. Explain conceptually how CNC is applied to industrial applications.
 3. Describe and be able to implement basic set-up procedures for CNC mills and lathes.
-

Topics Covered:

- Safety
 - Coordinate Systems
 - Math Review of Necessary Algebra & Trigonometry
 - Types of CNC Machines and Controls
 - Word Address Programming Structure
 - Word Address Programming – Milling Machine
 - Word Address Programming – Lathe
-

Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)
 - [Accessibility Services](#)
Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
 - [Get Help: JCC & Community Resources](#)
 - [Emergency Closing Procedures](#)
 - Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
-------	--------	-----	--------	-----	--------	-----	-----
 - Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.
-

Effective Date: Fall 2021