

**JAMESTOWN COMMUNITY COLLEGE**  
**State University of New York**

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**INSTITUTIONAL COURSE SYLLABUS**

**Course Title:** Dimensional Metrology

**Course Abbreviation and Number:** MCT 2340

**Credit Hours:** 2

**Course Type:** Lecture/Lab

**Course Description:** Students gain exposure to basic and state of the art requirements for inspection and measurement of machined parts and assemblies. Students will be introduced to the various types of inspection equipment. The students will also have hands-on exposure to metrology via a CMM (Coordinate Measurement Machine) and an optical comparator. Students will hear of state of the art advances in measurement techniques from industry representatives.

Prerequisites: MCT 1340 and MAT 1220 or MAT 1590 or higher.

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**Student Learning Outcomes:**

Students who demonstrate understanding can:

1. Demonstrate use of various manual measurement systems such as verniers, micrometers, gage blocks, calipers, bore gages, profilometers, hardness and surface gages
  2. Understand accuracy, precision, and repeatability and the effects of instrumentation and calibration.
  3. Demonstrate the use of more advanced measuring equipment including:
    - a. Optical Comparators
    - b. Coordinate Measuring Machine
  4. Create sample industrial inspection reports.
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**Topics Covered:**

- Introduction to Metrology
  - Practical Applications – Basic Tools
  - Special Topics
  - Practical Applications – Advanced Tools
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**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
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  - 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.
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**Effective Date:** Fall 2021