

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

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**INSTITUTIONAL COURSE SYLLABUS**

**Course Title:** Manufacturing Process I

**Course Abbreviation and Number:** MCT 2420

**Credit Hours:** 3

**Course Type:** Lecture/Lab

**Course Description:** Students will learn traditional manufacturing processes. Topics include processes such as casting, hot and cold working, injection molding, powdered metallurgy and finishing, as well as MTL props and their effect on the manufacturing process, and lean manufacturing. Labs consist of tours of traditional manufacturing plants and a project which requires students to create a small factory that uses new manufacturing techniques. Emphasis of the project is on quality, reduced work in process, and the team approach.

Prerequisites: MCT 1380.

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**General Education Requirements Met**

JCC

Applied Learning

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**Student Learning Outcomes:**

Students who demonstrate understanding can:

1. Recommend and generate a mechanical part and defend the choice of a specific manufacturing process.
  2. Generate appropriate manufacturing process documentation and procedures.
  3. Analyze the manufacturing process flow in an existing plant.
  4. Effectively apply knowledge and skills to a real-world experience, creative project, or independent intellectual investigation. [JCC Gen Ed – Applied Learning]
  5. Thoughtfully reflect on connections between concepts studies in the classroom & insights gained from an applied learning experience/project. [JCC Gen Ed – Applied Learning]
  6. Recognize the importance of ethical behavior in fostering a community of mutual respect and dignity. [JCC Gen Ed – Values & Ethics]
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**Topics Covered:**

- Design/manufacturing process
  - Team building
  - Properties of materials
  - Ferrous and non-ferrous metals
  - Casting and powder metallurgy
  - Joining processes
  - Finish processes
  - Hot working processes
  - Cold working processes
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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 2023