

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

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**INSTITUTIONAL COURSE SYLLABUS**

**Course Title:** Intro Engineering & ENR Design

**Course Abbreviation and Number:** ENR 1560

**Credit Hours:** 4

**Course Type:** Lecture

**Course Description:** This course provides a first experience for students choosing an engineering career and is divided into three segments. Part one covers the engineering design process. Part two introduces the student to computer-aided design. Part three introduces the student to the engineering fields and advances in high technology. Field trips and speakers are used to help the student select a major field and a transfer institution.

**Prerequisite/Corequisite:** MAT 1590 or higher (or eligibility: MAT 1600).

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**General Education Requirements Met**

**JCC**

Critical Reasoning & Integrative Learning

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**Student Learning Outcomes:**

Students who demonstrate understanding can:

1. Identify key tasks commonly performed by engineers within various engineering fields.
  2. Apply the engineering design process and various tools such as CAD and spreadsheets to successfully develop a solution to an assigned design project and deliver the solution as a part of a student team
  3. Integrate ideas from different theories or fields of study to explain a multifaceted problem or issue. [JCC Gen Ed – CR & IL)
  4. Weigh diverse perspectives in the face of opposing viewpoints and understand the source of their own assumptions and biases. [JCC Gen Ed – CR & IL)
  5. Recognize the importance of ethical behavior in fostering a community of mutual respect and integrity. [JCC Gen Ed – CR & IL)
  6. Become acclimated to the culture of higher education at Jamestown Community College. [JCC Gen Ed – CR & IL)
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**Topics Covered:**

- Overview of Engineering
    - Engineering Fields
    - Grand Challenges in Engineering
    - Design Process
  - Engineering Modeling and Drawing
    - Engineering Sketching and Visualization
    - Components of Manufacturing Drawings
    - Orthographic Projections
    - Additional Drawing Views
    - Introduction to 3-D CAD Modeling and Generating Detailed Drawings
    - Dimensioning and Tolerancing
    - Fits
    - Threads and Fasteners
    - Weld Symbols
    - Manufacturing & Inspection Methods and Tools
  - Key Professional Behaviors and Skills
    - Ethics in Engineering
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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