JAMESTOWN COMMUNITY COLLEGE
State University of New York

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 eligibility: MAT 1600).

General Education Requirements Met

JCC

Critical Reasoning & Integrative Learning

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)

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

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 2023