

ENGR 10 Course Outline as of Fall 2018**CATALOG INFORMATION**

Dept and Nbr: ENGR 10 Title: INTRO ENGINEERING

Full Title: Introduction to the Engineering Profession

Last Reviewed: 12/12/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	2.00	Lab Scheduled	0	3	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	2.00		Contact Total	35.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

The course explores the branches of engineering, the functions of an engineer, and the industries in which engineers work. Explains the engineering education pathways and explores effective strategies for students to reach their full academic potential. Presents an introduction to the methods and tools of engineering problem solving and design including the interface of the engineer with society and engineering ethics. Develops communication skills pertinent to the engineering profession.

Prerequisites/Corequisites:**Recommended Preparation:**

Course Eligibility for ENGL 100 OR Course Eligibility for EMLS 100 (or ESL 100)

Limits on Enrollment:**Schedule of Classes Information:**

Description: The course explores the branches of engineering, the functions of an engineer, and the industries in which engineers work. Explains the engineering education pathways and explores effective strategies for students to reach their full academic potential. Presents an

introduction to the methods and tools of engineering problem solving and design including the interface of the engineer with society and engineering ethics. Develops communication skills pertinent to the engineering profession. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Course Eligibility for ENGL 100 OR Course Eligibility for EMLS 100 (or ESL 100)

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:

IGETC:	Transfer Area	Effective:	Inactive:
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CSU Transfer:	Transferable	Effective:	Fall 1989	Inactive:
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UC Transfer:	Transferable	Effective:	Fall 1989	Inactive:
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CID:

CID Descriptor:	ENGR 110	Introduction to Engineering
SRJC Equivalent Course(s):		ENGR10

Certificate/Major Applicable:

Major Applicable Course

Approval and Dates

Version:	05	Course Created/Approved:	10/26/1989
Version Created:	6/5/2017	Course Last Modified:	6/5/2021
Submitter:	Vince Bertsch	Course last full review:	12/12/2023
Version Status:	Approved (Changed Course)	Prereq Created/Approved:	12/12/2023
Version Status Date:	9/11/2017	Semester Last Taught:	Spring 2021
Version Term Effective:	Fall 2018	Term Inactive:	Summer 2021

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Apply a spectrum of resources and personal skills to develop opportunities and make decisions regarding their education and career.
2. Demonstrate effective study skills and teamwork.

Objectives:

During the course, the students will:

1. Describe the role of engineers in society and classify the different engineering branches, the functions of an engineer, and industries in which they work.
2. Identify and describe academic pathways to Bachelor's degrees.
3. Develop and apply effective strategies to succeed academically.

4. Explain engineering ethical principles and standards.
5. Demonstrate knowledge of effective practices for writing technical engineering documents and making oral presentations.
6. Analyze engineering problems using the engineering design process.
7. Demonstrate teamwork skills in working on an engineering design team.

Topics and Scope:

- I. Role of Engineering, Science, and Technology in Society
- II. Overview of the Engineering Profession
 - A. Branches
 - B. Functions
 - C. Industries
 - D. Careers
 - E. Job outlook
- III. Legal, Moral, and Ethical Issues in Engineering
- IV. Engineering education
 - A. Academic success strategies
 - B. Curriculum and preparation for upper division coursework
 - C. Pathways to and through university programs
- V. Engineering Design
 - A. Scientific foundations
 - B. Creativity
 - C. Problem-solving processes
- VI. Engineering Communication
 - A. Pictorial
 - B. Oral
 - C. Written
- VII. Engineering Tools and Practices
 - A. Graphing calculators
 - B. Software tools
 - C. Fabrication tools

Assignment:

1. Readings from textbook, handouts, or online resources (5 to 10 pages per week)
2. Investigations and reports on engineering topics (6 to 10). Suggested report topics: a periodical or online article related to engineering, an engineering field or job function, a university engineering program, a local engineering company, a local engineer, how a product works or is made
3. Career and academic development documents (6 to 10). Suggested documents: weekly schedule, goals essay, education plan, guest speaker questions, resume, cover letter, interview questions
4. Engineering documents (2-4). Suggested documents: project specifications, process instructions, build plan, Gantt chart
5. Oral presentations (1 to 2)
6. Group design projects (1 to 3)
7. Final Exam

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written Reports and Documents

Writing
30 - 50%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Group Projects

Problem solving
10 - 20%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Oral Presentations

Skill Demonstrations
5 - 15%

Exams: All forms of formal testing, other than skill performance exams.

Final Exam

Exams
5 - 15%

Other: Includes any assessment tools that do not logically fit into the above categories.

Participation

Other Category
10 - 20%

Representative Textbooks and Materials:

Engineering Your Future. 9th ed. Oakes, William and Leone, Les. Oxford University Press. 2016
Studying Engineering: A Roadmap to a Rewarding Career. 4th ed. Landis, Ray. Discovery Press. 2013 (classic)

Instructor Prepared Materials

OTHER REQUIRED ELEMENTS

STUDENT PREPARATION

Matric Assessment Required:	E	Requires English Assessment
Prerequisites-generate description:	NP	No Prerequisite
Advisories-generate description:	A	Auto-Generated Text
Prereq-provisional:	N	NO
Prereq/coreq-registration check:	N	No Prerequisite Rules Exist
Requires instructor signature:	N	Instructor's Signature Not Required

BASIC INFORMATION, HOURS/UNITS & REPEATABILITY

Method of instruction:	02	Lecture
	71	Internet-Based, Simultaneous Interaction
	72	Internet-Based, Delayed Interaction
Area department:	ENGR	Engineering and Applied Technology
Division:	73	Science, Technology, Engineering & Mathematics
Special topic course:	N	Not a Special Topic Course
Program status:	1	Major Applicable Course
Repeatability:	00	Two Repeats if Grade was D, F, NC, or NP
Repeat group id:		

SCHEDULING

Audit allowed:	N	Not Auditable
Open entry/exit:	N	Not Open Entry/Open Exit
Credit by exam:	N	Credit by examination not allowed
Budget code: Program:	0000	Unrestricted
Budget code: Activity:	0901	Engineering

OTHER CODES

Discipline:	Engineering OR Engineering Support	
Basic skills:	N	Not a Basic Skills Course
Level below transfer:	Y	Not Applicable
CVU/CVC status:	Y	Distance Ed, Not CVU/CVC Developed
Distance Ed Approved:	N	None
Emergency Distance Ed Approved:	Y	Fully Online Partially Online Online with flexible in-person activities
Credit for Prior Learning:	N	Agency Exam
	N	CBE
	N	Industry Credentials
	N	Portfolio
Non-credit category:	Y	Not Applicable, Credit Course
Classification:	Y	Liberal Arts and Sciences Courses
SAM classification:	E	Non-Occupational
TOP code:	0901.00	Engineering, General
Work-based learning:	N	Does Not Include Work-Based Learning
DSPS course:	N	Not a DSPS Course

In-service:

N

Not an in-Service Course