

**ENGR 10 Course Outline as of Spring 2009****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	1.50	Lecture Scheduled	1.50	17.5	Lecture Scheduled	26.25
Minimum	1.50	Lab Scheduled	0	5	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	1.50		Contact Total	26.25
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 52.50

Total Student Learning Hours: 78.75

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:**

Non-mathematical introduction to the field of engineering. Students research and discuss the expectations and experiences of engineers in academia and industry, and the role of engineering and technology in society. Group activities, assignments, and interaction are emphasized. Course focuses on information technology as a way to assist in making informed decisions about career paths, majors, and schools. Course also includes information regarding engineering transfer requirements and coursework expectations. Job hunting skills such as networking, resume writing, and interviewing are explored. Includes field trips and guest speakers.

**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: Non-mathematical introduction to the field of engineering. Students research and discuss the expectations and experiences of engineers in academia and industry, and the role of

engineering and technology in society. Group activities, assignments, and interaction are emphasized. Course focuses on information technology as a way to assist in making informed decisions about career paths, majors, and schools. Course also includes information regarding engineering transfer requirements and coursework expectations. Job hunting skills such as networking, resume writing, and interviewing are explored. Includes field trips and guest speakers. (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:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Transferable	Effective:	Fall 1989	Inactive:
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<b>UC Transfer:</b>	Transferable	Effective:	Fall 1989	Inactive:
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### **CID:**

CID Descriptor:ENGR 110	Introduction to Engineering
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SRJC Equivalent Course(s):	ENGR10
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### **Certificate/Major Applicable:**

Major Applicable Course

## **COURSE CONTENT**

### **Outcomes and Objectives:**

1. Analyze and discuss the role of engineering and technology in society.
2. Investigate the spectrum of engineering and engineering related occupations.
3. Develop study skills required for success in engineering courses.
4. Experience the advantages and difficulties of working in an engineering design group.
5. Access the internet and utilize the career and transfer centers to research career, college, and university information.
6. Summarize information gathered in assignments and present that summary to their fellow students in an oral presentation.
7. Conduct an interview with a working engineer to gather current and personal career information.
8. Synthesize all interview data and assess the various degrees of occupational compatability.
9. Write a resume and cover letter.

10. Investigate personal academic and career goals and the resources institutions that are available to achieve those goals.

### **Topics and Scope:**

1. Role of engineering and technology in society
2. Legal, moral, and ethical issues in engineering
3. Overview of the engineering fields
  - a. mechanical
  - b. electrical
  - c. civil
  - d. nuclear
  - e. chemical/petroleum
  - f. aeronautical
  - g. architectural
4. Overview of engineering job functions
  - a. research
  - b. development/design
  - c. production/construction
  - d. test
  - e. marketing/sales
  - f. operations
  - g. management
  - h. consulting
  - i. teaching
5. Engineering communication and technology
  - a. pictorial communication
  - b. oral communication
  - c. written communication
  - d. engineering design processes
  - e. role of computers in engineering
6. The engineering curriculum
  - a. SRJC and lower division
  - b. Transfer institutions
  - c. Graduate level
7. Occupational information
  - a. value and applicability of education to job
  - b. demand for engineering/market trends
  - c. interviewing techniques as a career information resource
  - d. awareness of career literature and data
  - e. working conditions/pay rates
8. Engineering student survival skills
  - a. budgeting time
  - b. preparing for and participating in lectures
  - c. working in a group
  - d. working on problem sets
  - e. writing lab reports
  - f. studying for and taking exams

### **Assignment:**

All assignments emphasize the use of the Internet to acquire information.

1. Investigate and report on an engineering issue.
2. Investigate and report on an engineering article (from a periodical)
3. Essay on career goals and interests.
4. Engineering problem solutions with a research element (missing data).
5. Investigate and report on an engineering field.
6. Investigate and report on an engineering job function.
7. Investigate and report on an engineering university program.
8. Interview an engineer.
9. Investigate and report on a local engineering company.
10. Investigate and report on how a product works or is made.
11. Develop and produce a resume and cover letter.
12. Construct a daily schedule.
13. Construct an educational plan.
14. Compose a list of questions for an interview.
15. Oral presentation to the class.
16. Group design activities.
17. Readings from textbook or handouts, 5 to 20 pages per week.

### 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 essays

Writing  
20 - 40%

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

Engineering problems

Problem solving  
0 - 5%

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

Oral presentation, Group activities

Skill Demonstrations  
10 - 20%

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

Quizzes on reading

Exams  
0 - 15%

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

Group evaluations, Participation, Completion of non-writing assignments

Other Category  
20 - 50%

### Representative Textbooks and Materials:

Instructor Prepared Materials

Studying Engineering: A Roadmap to a Rewarding Career. Landis, Ray. 3rd Ed., Discovery Press, 2006