

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

X Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: ENGR 100 – Introduction to Engineering

UNIT VALUE: 1

MINIMUM NUMBER OF SEMESTER HOURS: 16

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills

ENTRANCE REQUIREMENTS

PREREQUISITE: None

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE:

An overview of the engineering profession including not only the different engineering fields but also the specialized demands and rewards of each. It will afford the opportunity for community building among the students, who usually are otherwise isolated in the community college milieu. Group projects in the course will encourage socialization and human relations training in what is often perceived as a dry and dull profession. Academic success strategies will be explained and practiced; ethical concepts will be examined through case histories and practical applications.

SPECIFIC COURSE OBJECTIVES:

The successful student will:

1. Gain a clear concept of the world of engineering itself and in relation to society.
2. Learn methods of optimizing time and grades. An unusually large number of courses are required of engineering students. Study techniques as well as scheduling sequences can make the difference between survival or defection in an engineering career. Carefully developed strategic plans are necessary for successful completion of an academic career in engineering, as well as a professional career after academic education.
3. Become familiar with different personality types to facilitate working with different people toward common objectives.
4. Learn problem-solving techniques applicable to many fields as well as to engineering situations.
5. Develop community building and interpersonal skills. Engineering projects are increasingly characterized by team efforts.
6. Develop a clear concept of the nature of ethics, particularly as encountered in engineering decisions and risk evaluations.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

1. Engineering fields of specialization.
2. Engineering as a profession.

3. Learning, thought; personality differences.
4. Problem solving.
5. Engineering communications: writing, graphics, speaking.
6. Engineering calculations.
7. Computers.
8. Ethics: principles and applications.

REQUIRED READING:

Wright, Paul H. Introduction to Engineering. 3rd edition. New York: John Wiley and Sons, 2002.

SUGGESTED READING:

Kroeger, Otto and Janet M. Thoresen. Type Talk. New York: Dell Publishing, 1988.

Ellis, Dave. Becoming a Master Student. 7th edition. Boston: Houghton Mifflin, 1994.

REQUIRED WRITING:

1. Personal inventory: 1500 words
2. Notes and observations: guest speakers. 1000-1500 words
3. An ethical dilemma: analysis and critique. 2000 words

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

From four to six guest speakers from industry and business will address the class. Students will ask questions and will summarize and review each talk or presentation. Each student will be expected to work up notes and observations and hand them in at the succeeding class period. Students will have the opportunity to participate in panel discussions of case studies of incidents such as the Challenger accident, the Chernobyl accident, or the Bhopal accident.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply:

- Television Course (Video one-way, e.g. ITV, video cassette, etc.)
- Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
- Two-Way Video Conferencing (Two-way interactive video and audio)
- One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
- Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

Grades will be based upon:

- Class participation (panel discussion, brainstorming, presentations).
- Journal entries (critiques of guest speakers, personal inventory, problem sets, analyses of case studies, study assignments).

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes ___ No X Number of times course may be taken for credit: 1

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: William Bedford or Takashi Nakajima

SIGNATURES ON FILE