Degree Applicable

Glendale Community College
February, 2000
Revised April, 2011

COURSE OUTLINE

Engineering 100
Introduction to Engineering

I. Catalog Statement

Engineering 100 introduces students to the profession and disciplines of engineering and the engineering design process. Instruction includes computer skills and communication strategies utilized in engineering.

Units – 3.0
Lecture Hours – 3.0

Prerequisite: None.

II. Course Entry Expectations

Skills Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3.

III. Course Exit Standards

Upon successful completion of the required coursework, the student will be able to:
1. Identify the various engineering disciplines;
2. Discuss the job functions of an engineer;
3. Identify the components of the engineering education system;
4. Identify the factors that effect personal growth and development.

IV. Course Content — Total Contact Hours = 48

A. Ethical and Legal Aspects of Engineering — 3 hours
   1. Sub-Category #1
   2. Sub-Category #2

B. Engineering Disciplines — 14 hours
   1. Electrical engineering
   2. Mechanical engineering
   3. Civil engineering
   4. Chemical engineering
   5. Industrial engineering
   6. Aerospace engineering

C. Engineering Job Functions — 13 hours
   1. Analysis

2. Design
3. Testing
4. Development
5. Sales
6. Research
7. Management
8. Consulting
9. Instructing/Teaching

D. Engineering Education Success 6 hours

1. Models of education
2. Study skills
    a. Test taking strategies
    b. Collaborative learning
3. Course preparation
4. The learning process
    a. Taking tests
    b. Use of peers

E. Personal Growth and Development 12 hours

1. Personal development
2. Understanding yourself and others
    a. Maslow's hierarchy of needs
    b. Self-esteem
    c. Ethnic and gender differences
3. Communication skills
4. Importance of student organizations
5. Pre-professional employment

V. Methods of Presentation

The following instructional methodologies may be used in the course:

1. lecture;
2. multimedia;
3. guest speakers;
4. field trips.

VI. Assignments and Methods of Evaluation

1. Midterm examination.
2. Individual projects. (i.e. Student will assemble a small mechanical device and document the process by developing a written procedure.)
3. Final presentation. (i.e. Students will give a short oral presentation based on some aspect of engineering.)
4. Final examination.

VII. Textbook

Landis, R., Studying Engineering: A Road Map to a Rewarding Career, Current edition. Los Angeles: Discovery Press, 2007.
10th Grade Textbook Reading Level. ISBN: 978-0-9646969-2-1.

VIII. Student Learning Outcomes

1. The student will be able to identify the various engineering disciplines.
2. The student will be able to discuss the job functions of an engineer.
3. The student will be able to identify the components of the engineering education system.
4. The student will be able to identify the factors that effect personal growth and development.