Southwest Texas Junior College
2401 Garner Field Road
Uvalde, Texas 78801

College Year: 2011-2012
Section: Fall 2011

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ENGR 1201

Introduction to Engineering

Course Description

Introduction to engineering as a discipline and a profession. Includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society. Credit: Two semester credit hours. Two lecture hours per week. TSI Requirement: M2; R2; W1. Prerequisite: None

Course Focus

The course will focus on the use of computer tools to aid in the solution of engineering/scientific problems.

Textbook and Readings

Raymond B. Landis. Studying Engineering - Third Edition. Los Angeles, CA: Discovery Press, 2007. (Adopted 1/1/2000 ISBN: 9780964696921 9780964696921)

Technology Requirements

Students will be expected to have access to and use (1) a scientific calculator, (2) MS Excel 200x, (3) email, and (4) the Internet.

Course Outcomes

The following course outcomes will be addressed in this course:

1. Describe the nature of engineering and the related professions.
2. Identify the components of an engineering/scientific education.
3. Demonstrate basic problem solving technique.
4. Utilize a systematic approach to engineering analysis and design.
5. Solve engineering/scientific problems using a computer.

Lecture Topics

The following general lecture topics will be covered in this class:

1. Course introduction and review of syllabus
2. The concept of technology teams in modern technical business and industry
3. Professionalism and its place in engineering, science, and technology
4. Academic success strategies
5. Personal growth and development strategies
6. Ways to broaden your education
7. The essential components of an engineering and science education
8. Applying a successful problem solving strategy to engineering design
9. Mathematical models in modern design
10. Basic tools for solving engineering and scientific problems
11. Using MS Excel to solve engineering and scientific problems
12. Introduction to programming using Visual Basic for Applications

Student Objectives

In order to complete this course, the student must be able to:

1. attend class regularly
2. demonstrate responsibility
3. describe the technology team concept
4. list technology team members
5. identify characteristics of technology team members
6. list characteristics of a professional
7. list and describe academic success strategies
8. list and describe personal growth and development strategies
9. list and describe ways to broaden your education
10. list and describe the components of an engineering education
11. describe a successful problem solving strategy
12. list and describe mathematical models
13. use a scientific calculator to solve basic engineering problems
14. use MS Excel to solve basic engineering problems
15. graph basic engineering problems using MS Excel
16. describe the fundamental concepts of programming
17. use Visual Basic for Applications (VBA) to solve basic engineering problems

Student Contributions

Each student is expected to study at least six hours per week outside of class, which includes review of online materials, research and readings on class related topics, completion of assignments, and preparation for exams.

Course Evaluation

Your performance will be evaluated by satisfactory mastery of the outcomes listed above. In addition to the completion of ten homework assignments, three regular exams and a comprehensive final exam will be given during the course. The point system below will be used to determine your grade:

Homework assignments (10)	100 points
Exams (2)	200 points
Project	100 points
Final Exam (Comprehensive)	200 points
Attendance	32 points

The following point ranges will determine your final grade:

A	540 or more
B	480-539
C	420-479
D	360-419
F	359 or less

Course Policies

Plagiarism, the representation of someone else's work as your own, or cheating on an examination will not be tolerated. Either case will result in a grade of zero on the work or examination in question. Two or more infractions will be reported to the Dean of Instructional Services for disciplinary action.

Americans with Disabilities Act (ADA) Statement

Any student with a documented disability needing academic adjustments is requested to speak directly to the Counseling Department (see below) as early in the semester (preferable within the first week) as possible. All discussions will remain confidential.

Crystal City Idalia De La Cruz (830/374-2828)
Del Rio Marilyn Casson (830 775-1560)
Eagle Pass Brenda Hoffman (830/758-4102)
Uvalde Lorena Lopez (830/591-7346)

Academic Integrity Statement

Academic integrity is highly valued in our campus community. Academic integrity directly concerns ethical behaviors which affect both the academic environment and the civic community. Academic dishonesty seriously violates the integrity of the academic enterprise and will not be tolerated at Southwest Texas Junior College. Academic dishonesty is regarded as any act of deception, benign or malicious in nature, in the completion of any academic exercise. Examples of academic dishonesty include cheating, plagiarism, impersonation, misrepresentation of idea or fact for the purpose of defrauding, use of unauthorized aids or devices, falsifying attendance records, violation of testing protocol, inappropriate course assignment collaboration, and any other acts that are prohibited by the instructor of record.

Quality Enhancement Plan (QEP)

Southwest Texas Junior College is accredited by the Southern Association of Colleges and Schools (SACS). SACS requires that every institution develop a Quality Enhancement Plan (QEP). SWTJC's QEP is entitled Enhancing Critical Reading Skills. SWTJC enhances students' critical reading skills by implementing reading instructional interventions in the Gateway classes (History 1301, Math 1314, and English 1301). SWTJC also facilitates reading skills improvement throughout the institution by providing reading tutorial support. For questions about the QEP, please contact Charles Garabedian QEP Director at cagarabedian@swtjc.edu.

Use of Copyrighted Material

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Class Schedule

The class meets on Tuesday and Thursday mornings, 8:00 AM to 8:50 AM from August 22, 2011 to December 6, 2011. Major exams will be given on the following approximate dates:

* Exam I - October 11, 2011
* Exam II - November 8, 2011
* Project - November 29, 2011
* Final Exam - December 6, 2011

Office Hours

Monday through Friday from 8:00 AM to 5:00 PM except class times.

Created: 2011-2012 Revised: 8/30/2011