SYLLABUS

COURSE # AND TITLE: ENGR 111 INTRODUCTION TO ENGINEERING
 # OF CREDITS: 2

CATALOG DESCRIPTION

An introduction to engineering as a career. Issues important to engineers, as students and professionals, are discussed along with answers to the question, "What can I expect to do as an engineer?" In addition, basic computer skills and electronic data acquisition are introduced in a laboratory setting, emphasizing a "hands-on" approach to experimentation.

Semester Offered: Fall, Spring
Prerequisites: MATH 115
Corequisite: ENGL 111

Common Student Learning Outcomes
Upon successful completion of San Juan College programs and degrees, the student will....

Learn	*Students will actively and independently acquire, apply and adapt skills and knowledge to develop expertise and a broader understanding of the world as lifelong learners.*
Think	*Students will think analytically and creatively to explore ideas, make connections, draw conclusions, and solve problems.*
Communicate	*Students will exchange ideas and information with clarity and originality in multiple contexts.*
Integrate	*Students will demonstrate proficiency in the use of technologies in the broadest sense related to their field of study.*
Act	*Students will act purposefully, reflectively, and respectfully in diverse and complex environments.*

GENERAL LEARNING OBJECTIVES

Upon completion of the course, the student should understand the following content areas:

1. The engineering profession
2. Electronic data acquisition
3. Sustainable development and professional ethics

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to …

1.1. Schedule their pre-engineering courses and know where to get proper advising
1.2. Identify the differences between the various fields of engineering specialization
1.3. Understand the process of transferring to a 4-year institution for completion of the engineering degree
1.4. Identify various career paths associated with an engineering background
1.5. Understand the testing and licensing procedure for professional registration
1.6. Use the Internet to search for career information

2.1. Use basic electrical theory to design and analyze simple circuits
2.2. Understand basic transducer (sensor) theory
2.3. Take laboratory measurements with electronic devices
2.4. Program the Texas Instruments Calculator-Based Laboratory data acquisition system
2.5. Analyze and present electronic data using spreadsheet and word processing software
2.6. Incorporate data acquisition skills into a group design project and competition

3.1. Understand the basics of electrical energy production and distribution
3.2. Understand sustainable energy and development techniques
3.3. Understand the political nature of energy production and regulation
3.4. Understand and look up the codes of engineering ethics
3.5. Participate in discussions of engineering ethics

Syllabus developed by _Carl Bickford___ _ ___ Date: __10/27/04_____

Syllabus reviewed by __Jim Phillips_____ __ ___ Date: _____10/27/04_____