



MASTER COURSE OUTLINE

Prepared By: Jim Hamm

Date: Sep 2017

COURSE TITLE

Intro to Science and Engineering

GENERAL COURSE INFORMATION

Dept.: ENGR

Course Num: 110

(Formerly: EGR 111)

CIP Code: 14.0101

Intent Code: 11

Program Code:

Credits: 3

Total Contact Hrs Per Qtr.: 33

Lecture Hrs: 33

Lab Hrs: 0

Other Hrs: 0

Distribution Designation: General Elective GE

COURSE DESCRIPTION (as it will appear in the catalog)

Students in this course will investigate careers in science and engineering, and will research the educational pathways to those careers. In addition, students will learn techniques for becoming a successful student in science and engineering majors.

PREREQUISITES

None

TEXTBOOK GUIDELINES

Recommended text is Studying Engineering, by Raymond Landis

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. Research the educational pathway for careers in different fields of science and engineering.
2. Research employment prospects and work environments for different fields in science and engineering.
3. State personal career objectives in science and engineering professions.
4. Describe just what workers in different fields of science and engineering do in their work.
5. Describe different strategies and techniques for success in college science and engineering courses.
6. Develop a personal schedule that maximizes chances for success in college courses.
7. Outline a plan for success in science, engineering, and mathematics courses.

INSTITUTIONAL OUTCOMES

None

COURSE CONTENT OUTLINE

- I. The Science or Engineering Profession
 - A. Job functions
 - B. Employment opportunities
 - C. Professional organizations

- D. Employment trends
- E. Licensing or certification
- II. Educational Pathways
 - A. Required courses
 - B. Prerequisites
 - C. Variations between colleges
 - D. Time to degree
 - E. Post-graduate education
- III. Understanding the Teaching and Learning Process
 - A. Types of learning
 - B. How we learn
 - C. Reinforcing learning
 - D. Metacognition
 - E. Dealing with different styles of instruction
 - F. Mistakes students make: setting yourself up for failure
- IV. Making the Most of How You Are Taught
 - A. Preparing for classes
 - B. Strategies during lectures
 - 1. Note-taking
 - 2. Listening skills
 - 3. Asking questions in class
 - C. Making effective use of your instructors
 - 1. Preparing for office-hour visits
 - 2. Communicating by email and phone
 - 3. Behaviors to avoid
 - D. Utilizing tutors and other resources
- V. Making the Learning Process Work for You
 - A. Essential skills
 - 1. Reading for comprehension
 - 2. Reading mathematics, engineering, and science texts
 - 3. Problem solving
 - B. Organizing your learning process
 - 1. Mastering one day before the next
 - 2. The illusion of comprehension
 - 3. Scheduling and managing your time
 - 4. Priority management
 - C. Preparing for and taking tests
 - D. Making effective use of your peers
 - 1. Collaborative learning
 - 2. Benefits of group study

DEPARTMENTAL GUIDELINES (*optional*)

Exams and Quizzes 30-40%; Homework and Projects 30-40%; In-Class Work 20%; Attendance 10-20%

PO5 should be assessed: Students will be able to solve problems by gathering, interpreting, combining and/or applying information from multiple sources.

DIVISION CHAIR APPROVAL

DATE