

MIAMI UNIVERSITY
SCHOOL OF ENGINEERING AND APPLIED SCIENCE
DEPARTMENT OF ENGINEERING TECHNOLOGY
INTRODUCTION TO ENGINEERING TECHNOLOGY

ENT 137

1

Description:

An introductory course for students entering Engineering Technology. This course covers broad elementary engineering concepts to include a definition of Engineering Technology, the distinction between the various areas of focus in Engineering Technology, introduction to engineering “terminology”, and a survey of current issues (problems, research efforts, recent developments, etc.) in the engineering field.

Prerequisite: High School Algebra

Text: Pond, R. Introduction to Engineering Technology, 7th, Prentice Hall, 2009. Supplemental readings (via handouts)

General Objectives:

Upon completing this course the student will be able to identify and define basic concepts within engineering technology (energy, power, design, maintenance, teamwork, ethics / accountability). In addition, the student will begin to utilize terminology applicable to the field of Engineering Technology. The student will also be able to make a distinction between the various concentrations within Engineering Technology; in particular the mechanical and electrical concentrations.

This course is designed to meet the following competencies in the Engineering Technology program:

- A recognition of the need for and an ability to engage in lifelong learning.
- An ability to understand professional, ethical, and social responsibilities.
- A respect for diversity and knowledge of contemporary professional, societal, and global issues.
- A commitment to quality, timeliness, and continuous improvement.

Topical Outline:

1. Engineering Science and Engineering Technology
2. Careers in Engineering Technology (includes Project Management component)
Advising, Co-op and Career Placement
3. College survival skills, DAR’s, majors, etc
4. Lab Safety
5. Measurement Techniques
6. Role of Liberal Education in Engineering Technology
7. History of Technology
8. Ethics in Engineering
9. The Environment
10. Diversity in Engineering and Technology

Method of presentation:

Classroom presentations will be primarily lecture, demonstration, and discussions. Plant tours may be scheduled on occasion in order to supplement or replace lectures. These tours will be scheduled as opportunities present themselves throughout the semester.

Method of Evaluation:

You will be evaluated on classroom participation and performance on assignments and examinations using the following letter grading system:

Grading scale:

- A – 90% to 100%
- B – 80% to 89%
- C – 70% to 79%
- D – 60% to 69%
- F – below 60%

The following is the distribution of credit for the required tasks:

Individual Paper (Careers)	15%
Team Oral Presentation (History of Technology)	15%
Team Ethics Presentation (Ethics)	15%
Team Lab Report (Measurement lab)	15%
Class Participation	20% HW, classroom discussion, interaction, questions, & classroom contribution
Individual Final Paper/Final Exam	20%

ENT 137 Class Schedule

Week	Topic	Reading	HW
1	Engineering Technology as a Career http://www.nyseta.org/et1.htm	Chapters 1	Ch1 #3,7
2	Careers Choices in Engineering Technology http://www.collegegrad.com/careers/proft05.shtml	Chapter 2,3	Ch 1#10,16
3	Co-Op presentation	Chapter 3	Ch1 #19 Ch2 #9 Careers Paper Due
4	Using the Engineering Library	Chapter 3	Ch1 #14
5	Survival skills, Advising, Reading your DAR, majors, etc.	Chapter 4	Print your DAR(s) and bring to class Ch 3 #17 Ch 4 #16, #27
6	How to write a lab report	Chapter 5	Ch 4 #36, 46
7	Scientific Notation	Chapter 6	Ch 5 #34, 39, 42, 47

7	Measurement Techniques	Chapter 7	Ch 6 #30, 41
8	Significant Digits/Percent Average/Analog and Digital Meter Reading	Chapter 7	Ch 7 #4, 11
9	Measurement Lab		Work on individual lab reports. Due next week,
10	History of Technology-Computers	Chapter 8	Work on Team History Report with Oral Presentation
11	History of Technology-Manufacturing	Chapter 9	Team History Oral Presentations
12	More oral presentations		
13	The Role of Liberal Education in Engineering	Chapter 10	Ch 10 #32
14	The Environment and Technology Diversity in Engineering and Technology	Chapter 10	Ch 10 #23, 29
14-15	Ethics and Engineering Technology	Ethics Team Discussions	Ethic Team
16	Individual Final Paper Due		

Schedule notes:

Monday, September 1, 2008 is Labor Day—no classes

Monday, September 15, 2008 is Last Day to Drop a Course w/out Grade (full-term courses)

Tuesday, October 31, 2008 is Last Day to Drop Course with a W (full-term courses)

Monday, December 15, 2008 final exams begin

See your schedule booklet for additional dates and verification of these dates.

Ethics and Academic Conduct

It is expected that all members of the Department of Engineering Technology (faculty, staff and students) will adhere to the highest ethical standards in all matters. The Department endorses the Code of Ethics for Engineers proposed by the National Society of Professional Engineers (<http://www.nspe.org/ethics/eh1-code.asp>) and strongly defends the rights and responsibilities that accompany academic freedom which are at the heart of the intellectual integrity of Miami University.

It is expected that students will actively conduct themselves in an ethical fashion, for example, by only possessing and using materials authorized by the instructor during examinations, submitting assignments which are the student's original work (carefully referencing sources of information), protecting the integrity of assignments by adhering to prescribed procedures, and carefully utilizing the University's educational resources of materials and equipment.

Any activity that tends to compromise the academic integrity of the institution or subvert the educational process is defined as academic misconduct. Cheating and other forms of academic

misconduct undermine the value of a Miami education for everyone, especially for the person who cheats.

The ENT department regards the adhering to academic ethical standards as a very serious issue and will follow the procedures and penalties for academic misconduct (dishonesty) as prescribed in Part V of The Student Handbook, pp. 10-12.

Miami University Learning Community

Miami University is committed to fostering a supportive learning environment for all students irrespective of individual differences in gender, race, national origin, religion, handicapping condition, sexual preference, or age. Students should expect, and help create, a learning environment free from all forms of prejudice. Disparaging comments, sexist or racist humor, or questioning the academic commitment of students based upon these individual differences are behaviors that undermine our learning community. If such behaviors occur in class, please seek the assistance of your instructor or department chair.

University Statement Asserting Respect for Human Diversity

Miami University is a multicultural community of diverse racial, ethnic, and class backgrounds, national origins, religious and political beliefs, physical abilities, ages, genders, and sexual orientations. Our educational activities and everyday interactions are enriched by our acceptance of one another; and, as members of the University community, we strive to learn from each other in an atmosphere of positive engagement and mutual respect.

Because of the necessity to maintain this atmosphere, bigotry will not go unchallenged within this community. We will strive to educate each other on the existence and effects of racism, sexism, ageism, homophobia, religious intolerance, and other forms of invidious prejudice. When such prejudice results in physical or psychological abuse, harassment, intimidation, or violence against persons or property, we will not tolerate such behavior nor will we accept jest, ignorance, or substance abuse as an excuse, reason, or rationale for it.

All who work, live, study, and teach in the Miami community should be committed to these principles which are an integral part of Miami's focus, goals, and mission.

Basic Computing Skills

Incoming students to Miami University are expected to demonstrate minimum proficiencies with a personal computer, including using the Internet, sending email with attachments, basic word processing and file management. Need help in obtaining these skills? Check out these courses and resources -- CSA101 Computing Skills: Getting Started, Computing Skills: Using the Internet, BTE181 Computers and Business, SmartForce computer-based training, and Computer Center workshops. If you need assistance, please contact the Middletown Computer Center (Room 6 Gardner-Harvey) or the Hamilton Computer Center (3rd floor Mosler Hall)

Expectations

You are expected to:

- Be prepared for class (do the reading, HW, etc.)

- Be on time and at every class meeting
- Turn off beepers, cell phones, and other noise making devices
- Complete all HW and turn-in on time
- Follow the provided format for all formal lab reports and case studies (see Blackboard)

Instructor Information

Instructor: Rob Speckert
 Phone: 785-1810 or 727-3244
 Office: 207C Phelps Hall (H)
 or 109Johnston Hall (M)
 Hours: Th Middletown
 M,T,W Hamilton
 Email: speckere@muohio.edu

Ayo Abatan
 785-1808 or 727-3276
 207B Phelps Hall (H)
 or 205M Thesken (M)
 M (2-4),W (3-5) Middletown
 T, R Hamilton
abatanao@muohio.edu

We encourage you to periodically visit with us throughout the semester. This can be done prior, during, or after class, or other times as needed. Your team should visit with us at least once prior to each presentation.

Updated: August 22, 2008. Subject to change as needed.

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office for Disability Services at 513-785-3211 in room 120 Rentschler Hall to coordinate reasonable accommodations for students with documented disabilities.