



SYLLABUS
MENG 1101-102: INTRODUCTION TO ENGINEERING
(Required Course)
Fall 2019

Instructor: Dr. Zeki Ilhan

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Office Hours: Monday: 02:00 pm – 5:00 pm
Wednesday: 11:00 am – 2:00 pm
Thursday: 10:00 am – 1:00 pm
Friday: 11:00 am – 12:00 pm

Teacher Assistant: Mr. Justiz Baker (justizbaker97@yahoo.com)

Course Schedule: Thursday: 1:00 pm – 1:50 pm

Class Location: McCoy Hall 207

CATALOG DESCRIPTION

A study that defines the history and the various fields of engineering, the career paths for engineers, the engineer as a professional, the engineering path for learning and creative thoughts, the engineering approach to problem solving, the engineering information and communication tools, the engineering calculations.

COURSE PRE-REQUISITES

None

REQUIRED TEXTBOOK

Introduction to Engineering by Paul H. Wright, 3rd Edition, Wiley

TOPICS COVERED

- History of engineering and future engineering challenges
- Definition of engineering and engineering fields of specialization
- Initial career profiles and careers paths for engineers
- Engineering as a profession, professional engineering organizations
- Framework and codes of engineering ethics
- Paths to creative thoughts in engineering
- Engineering approach to solving problems and engineering calculations and units

GRADING

The overall grade for the course will be based on the scores earned on the homework assignments, exams, projects and the attendance. Exams (2 midterms and a final) account for 70% of the course grade, weekly homework assignments constitute 10%, projects and presentations account for 10%, and attendance accounts for 10% of the final grade. The overall score for the course is determined as follows.

Table 1: Percentage contribution of each assignment.

Assignments	Contribution
Test 1	20%
Test 2	20%
Final Exam	30%
Homework	10%
Projects & Presentations	10%
Attendance	10%
TOTAL	100%

FINAL EXAM

Thursday, December 12, 1:00 pm – 3:00 pm

COURSE ORGANIZATION AND ASSESMENT

- **Course Format:**
This course consists of one 50-minute session each week. Class meetings will contain lectures and activities that cover the relevant topics for that particular class.
- **Class Attendance:**
You are expected to attend class regularly and are responsible for notes, homework assignments and exams missed while absent. Attendance (or lack thereof) directly affects the course grade. **Attendance is considered very important in this course, and counts for 10% of the grade.**
- **Student Attitude:**
Once class starts, the use of cell phones, conducting private discussions, using the computer (unless requested by the instructor), working on anything that is not directly related to the course, and making derogatory remarks about your classmates or instructor will not be accepted and may result in your dismissal from the class.
- **Midterm Progress Reports:**
In order to help students keep track of their progress toward course objectives, the instructor for this class will provide a Midterm Progress Report for at-risk students through their WebWorld account. Midterm grades will not be reported on the students' transcript; nor will they be calculated in the cumulative GPA. They simply give students an idea of where they stand at the midpoint of the semester. Students earning below a C at the midway point should schedule a meeting with the professor and seek out tutoring.

- **Homework Evaluation Method:**

Your performance will be tested regularly throughout the semester by homework assignments. While several homework problems may be assigned as part of a homework assignment, it may be the case that only a subset of problems will be graded. However, you must attempt all problems. **Do not try to guess which problems will not be graded.**

- **Late Assignments:**

Homework assignments must be turned in on the due date, at the beginning of class. Once class starts, late assignments will **NOT** be accepted.

- **Exam Make-up:**

Make-up exams will be given only in case of an emergency (accompanied by a doctor's report) or a major conflict due to a scheduled athletic event or a conference.

- **Projects and Presentations:**

There will be 2-3 assignments in the form of short, fact-based presentations and/or brief technical report preparations. These assignments will be completed by groups of 2-3 students.

- **General Study Guidelines:**

Plan on spending few hours outside of class each week to study the material and to work on homework assignments and projects. Do not wait until the last day to start the homework or to prepare for exams. Utilize office hours throughout the semester whenever you need help about the assignments or the course material.

GENERAL EDUCATION STATEMENT

Students in this course must demonstrate their proficiency in oral and written communication through written homework assignments and exams.

ACADEMIC INTEGRITY POLICY

Scholastic dishonesty will not be tolerated and will be prosecuted to the fullest extent. You are expected to have read and understood the current issue of the student handbook regarding student responsibilities & rights, and the intellectual property policy information about procedures and what constitutes acceptable on-campus behavior.

DISABILITY SUPPORT SERVICES

If you have a documented disability that will impact your work in this class, please contact me to discuss your needs.

DISCLAIMER STATEMENT

Information contained in this syllabus, other than grading policies, may be subject to change with advance notice, as deemed appropriate by the instructor.

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information, please refer to [campus carry rules and policies](#)

COURSE LEARNING OBJECTIVES AND RELATIONSHIP TO STUDENT OUTCOMES

Table 2: Course learning objectives related to the ABET criteria (1-7)

Outcome-Related Course Learning Objectives	1	2	3	4	5	6	7
Knowing the early civilizations and their major contributions to engineering.			X	X			X
Be able to name future major engineering challenges.			X	X			X
Given the engineer and scientist profiles, be able to define their major differences.			X	X			X
Be able to name the different fields and specialty areas related to mechanical engineering.			X	X			X
Be able to name the career paths for engineers.			X	X			X
Given the codes of ethics for engineers, be able to name the fundamental canon rules for engineers.			X	X			X
Be able to name the major professional engineering organizations in the US, and how they serve their members.			X	X			X
Be able to define creativity and name steps that lead to a creative process.	X		X	X			X
Be able to name the five steps that lead to a creative process. Give examples of obstacles to the creative process.	X		X	X			X
Be able to name some practical learning strategies to help the engineering students learn and improve their performances.			X	X			X
Be able to explain the four quadrant model of thinking and its related features.			X	X			X
Be able to define the steps of engineering design method.	X		X	X			X
Define the seven base units of the international system, its supplementary and its derivative units.	X		X	X			
Be able to write formal and informal engineering reports.			X	X			
Be able to work as part of a team.			X	X	X		

Table 3: Detailed interpretations of the ABET criteria (1-7) listed in Table 2.

ABET Criteria	Interpretation
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2	an ability to apply engineering design to produce solutions that meets specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3	an ability to communicate effectively with a range of audiences.
4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Prepared by Zeki O. Ilhan, August 2019.