



SYLLABUS
MENG 1202-202: SOLID MODELING
(Required Course)
Spring 2019

Instructor: Dr. Zeki Ilhan

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

Teacher Assistant: TBA

Course Schedule: Friday: 2:00 pm – 4:50 pm

Class Location: McCoy Hall 207

CATALOG DESCRIPTION

Intermediate to advanced study of computer-aided design and 3-D printing concepts. Use and integration of solid modeling and 3-D printing techniques with an emphasis on mechanical design. In depth study of computer based and physical prototypes/models.

COURSE PRE-REQUISITES

MENG 1132

REQUIRED TEXTBOOKS

Make: 3D Printing, by Anna Kaziunas France, MakerMedia.

Introduction to Solid Modeling Using SolidWorks 2016, by Howard and Musto, McGraw-Hill

TOPICS COVERED

- An introduction to 3-D printing techniques
- Intermediate to advanced computer aided design techniques
- Prototype development and design

Additional material may be covered as time permits.

GRADING

The overall grade for the course will be based on the scores earned on the exams, homework and lab work assignments, term project and the attendance. The homework and lab work assignments account for 20% of the course grade, exams account for 60%, term project accounts for the 10%, and attendance accounts for 10%. 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	20%
Homework and Lab Work	20%
Project	10%
Attendance	10%
TOTAL	100%

FINAL EXAM

Thursday, May 9, 3:30 pm – 5:30 pm

COURSE ORGANIZATION AND ASSESMENT

- **Course Format:**

This course consists of one 170-minute session each week. Class meetings will contain lecture sessions that cover the relevant topics for that particular class and the lab works in certain weeks.

- **Class Attendance:**

You are expected to attend class regularly and are responsible for notes, homework assignments, quizzes 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.**

- **Evaluation Method:**

Your performance will be tested regularly throughout the semester by three exams, one project, and homework and lab works. 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 (if any) problems will not be graded.**

- **General Study Guidelines:**

Plan on spending few hours outside of class each week to study the material and to work on homework assignments. 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.

- **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. **Printing issues are not a valid excuse for late homework.** Print at home or the student center, library, or in the lab. **Bring a digital device with storage capability to each class and save all classwork at least until final grades are posted. Issues with the unsaved material are not a valid excuse for late homework.**

- **Pop-Quizzes:**

There **MIGHT** be a few pop-quizzes throughout the semester that are related to the specific homework problems assigned to distinguish those who work by themselves from those who copied others' works, or the solution manual.

- **Exam Make-up:**

You are expected to take all exams on the scheduled date and time. However, if for some acceptable reason you are not able to do so, then you must inform the instructor in advance. The instructor will then decide whether you will be allowed to take a make-up exam, depending on the validity of your excuse.

- **Desire-to-Learn (D2L):**

Extensive use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication. You can log into [D2L](#) through the MSU Homepage.

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 Homepage](#).

COURSE LEARNING OBJECTIVES AND RELATIONSHIP TO STUDENT OUTCOMES

Table 2: Course learning objectives related to the ABET criteria (3a-3k)

Outcome-Related Course Learning Objectives	3a	3b	3c	3d	3e	3f	3g	3h	3i	3j	3k
Generating mechanical assemblies by using SolidWorks software			X		X		X				
Using 3-D design techniques to create a 3-D part			X		X		X				
Scanning and printing a 3-D part			X		X		X				
3-D printing of practical objects.			X		X		X				
Using 3-D resources.			X		X		X				

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

ABET Criteria	Interpretation
3a	an ability to apply knowledge of mathematics, science, and engineering.
3b	an ability to design and conduct experiments, as well as to analyze and interpret data.
3c	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health, and safety, manufacturability, and sustainability.
3d	an ability to function on multidisciplinary teams.
3e	an ability to identify, formulate, and solve engineering problems.
3f	an understanding of professional and ethical responsibility.
3g	an ability to communicate effectively.
3h	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
3i	a recognition of the need for, and an ability to engage in life-long learning.
3j	a knowledge of contemporary issues.
3k	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.