

COURSE OUTLINE

Course Prefix and Number	SYEN 1207
Course Title	Introduction to Mechanical Engineering
Credit	2 Hours
Semester and Year	Spring 2014
Instructor	Dr. Andrew Wright
Class Time	MF 12:00-12:50
Class Location	EIT 321
Office Location	EIT 522
Telephone	569-8071
Email	abwright@ualr.edu

Prerequisite: none

Course Description:

The mechanical engineering profession; problem solving skills; machine components and tools; forces in structures and fluids, materials and stresses; thermal and energy systems; motion of machinery; mechanical design.

Learning Objectives:

1. How to apply equations of mechanical physics to support design
2. How and when to take a measurement to support a design (or, how to break stuff)
3. Reverse engineering to expand the mechanical toolbox
4. Some basic machines, mechanisms, and engines

Texts, Readings, and Instructional Resources

Required Text: Beer, Johnston, Vector Mechanics for Engineers: Statics

Assignments, Evaluation Procedures, and Grading Policy

The course requirements consist of:

1. **Homework:** Homework assignments will be given periodically to supplement the reading material and lectures. Assignments are graded pass/fail. Reading and lectures will be tested with short in-class quizzes. Only the top four grades among the homework average and the quizzes will count, using the formula

$$\text{quiz grade} = 50 \text{ points} * (.4 * \text{highest score} + .3 * \text{next highest score} + .2 * \text{next highest score} + .1 * \text{next highest score}) / 100$$

2. Students will design and build a bridge to support a robot. Grade will be determined on the bridge itself, measurements of all parameters, and design calculations (as summarized in a report).

3. We will perform a number of mini-competitions and team-building exercises. This will be graded pass (participate)/fail (don't participate)

XVI. Grading

1. Homework and In Class Quizzes (5)	50 points
2. Bridge	40 points
3. Mini Competition Participation	10 points

XVII. Grades: $A \geq 90 \text{ points} > B \geq 80 \text{ points} > C \geq 70 \text{ points} > D \geq 60 \text{ points} > F$

Bonus Points are given based on superior performance on some task. These points are added onto the final score in determining grades.

Attendance will be taken periodically. If a student is absent for 25% of the time, his/her final grade will be reduced by one letter grade (i.e., from A to B or B to C). Students who do not attend during the first eleven days of class may be administratively dropped from the course.

A student who misses more than 40% of classes or labs will receive a final course grade of an F and may be administratively withdrawn prior to the end of the class at the discretion of the instructor.

Tardiness is disruptive, so please be respectful of your peers and instructor and get to class on time. If you are tardy, please come into the room quietly and sit in the nearest available seat to the door.

Sickness or Emergency is a legitimate excuse to make up a graded assignment (attendance or exam). However, to guarantee that no late penalties are applied, the student should notify the instructor in advance or provide an independent written excuse (e.g., a doctor's note) after the fact. Late penalties will not be applied to an excused absence.

Cell phones can be disruptive. Please turn off your cell phone (i.e. airplane mode) before class. If you forget and receive a call in class, please immediately disable your ringer/buzzer and terminate the call. Do NOT answer the call and have a conversation as this may be classified as disruptive behavior.

Disruptive Behavior may result in your being administratively dropped from the class, especially if it is persistent.

Sickness or Emergency is a legitimate excuse to make up a graded assignment (attendance or exam). However, to guarantee that no late penalties are applied, the student should notify the instructor in advance or provide an independent written excuse (e.g., a doctor's note) after the fact.

Make up policy: Quizzes may not be made up. For homework and reports, see "Late Assignments."

Mid-Term Grades will be assessed based on homework/lab to date (total points/total possible points *44) and the midterm exam (total points/100*56). A mid-term grade of D or F should result in a consultation either with the instructor or an academic counsellor.

Late assignments will not be accepted. Assignments are due by 5:00 on the due date. Assignments may be turned in either during class or at Dr. Wright's office (slip it under the door if Dr. Wright is not in the office). Email assignments may be used to satisfy the due date requirement; however, a paper copy must be delivered prior to grades being entered in order for the assignment to count.

Modifications to Syllabus may be made to improve delivery of the course content. The instructor will provide an updated syllabus at least one week prior to any changes taking effect and no modifications will be done within two weeks of the final exam.

Students with Disabilities: Per academic policy 501.2, the following statement must be included in all syllabi (see <http://ualr.edu/policy/index.php/5012/>)

"Students with Disabilities: Your success in this class is important to me, and it is the policy and practice of the University of Arkansas at Little Rock to create inclusive learning environments consistent with federal and state law. If you have a documented disability (or need to have a disability documented), and need an accommodation, please contact me privately as soon as possible, so that we can discuss with the Disability Resource Center (DRC) how to meet your specific needs and the requirements of the course. The DRC offers resources and coordinates reasonable accommodations for students with disabilities. Reasonable accommodations are established through an interactive process among you, your instructor(s) and the DRC. Thus, if you have a disability, please contact me and/or the DRC, at 501-569-3143 (V/TTY) or 501-683-7629 (VP). For more information, please visit the DRC website."

This statement has not been prepared by the instructor of this course, but is an academic policy, so please excuse the colloquial wording (use of first and second person).

Student Handbook: The UALR Student Handbook is available at <http://ualr.edu/deanofstudents/assets/archive/HANDBOOK.pdf>.

CLASS SCHEDULE

SYEN 1207. Introduction to Mechanical Engineering
Dr. Andrew B. Wright

Martin Luther King Holiday: Monday, January 21

Mid-term Grade Entry Begins: Monday, March 12

Mid-term Grades Viewable: Monday, March 18

Spring Break: Monday, March 18 – Friday, March 22

Drop Date: Tuesday, March 12

Grades Due: Friday, May 17, 12:00

Week	DATE	Reading Assignment	Topic	Homework Problems
1	1/18	Wickert, Ch. 1	What is mechanical engineering?	P1.6, P1.16
2	1/25	Wickert, Ch. 2	Mechanical Design	
3	2/1			
4	2/8			
5	2/15			
6	2/22			
7	3/1			
8	3/8			
9	3/15			
10	3/22	SPRING BREAK		
11	3/29			
12	4/1, 4/3, 4/5			
13	4/8, 4/10, 4/12			
14	4/15, 4/17, 4/19			
15	4/22, 4/24, 4/26			
16	4/29, 5/1, 5/3			
	5/7/2013	Consultation Day		
		Final Exam	Wednesday, May 8, 10:30-12:30	