

Revised: 8/20/13

**FALL 2013**  
**SYEN 1210: INTRODUCTION TO SYSTEMS ENGINEERING, Sections 01 and 02**  
**COURSE SYLLABUS**

**Instructor:** Dr. Andrew Wright, Email: [abwright@ualr.edu](mailto:abwright@ualr.edu), Phone: (501) 569-8071  
Office: EIT 522, Office hours: TBA

**Lecture Room:** EIT 224, **Robotics Lab:** EIT 321

**Class Time:** Section 01: W 11:00-11:50 (lecture), W 12:00-1:40 (lab)  
Section 02: W 11:00-11:50 (lecture), F 11:00-12:40 (lab)

**Teaching Assistants:** Taimoor Azfal, Zhuo Liu

### **Course Description**

Prerequisite(s): MATH 1302 or 1315 or consent of the instructor. Introduction to engineering as a profession, engineering problem solving, engineering design process, engineering ethics, engineering communication, history of engineering developments, and case studies involving leading inventions in the engineering field from a variety of disciplines. Students work in teams to build small engineering projects. Course includes industry visits and invited talks by industry specialists. One hour lecture. Two hours lab. Two credit hours.

### **Readings**

W. C. Oakes, L. L. Leone, C. J. Gunn, **Engineering Your Future: A Comprehensive Introduction to Engineering**, Oxford University Press, 2012, ISBN: (required).

ISBN-10: 0199797560, ISBN-13: 978-0199797561

### **Course Objectives**

1. Introduce students to on campus resources to enhance success and introduce students to the University's processes and expectations.
2. Introduce students to the engineering profession and creative engineering problem-solving through class activities, design projects, and presentations.
3. Familiarize students with the various engineering disciplines and their interrelationships.
4. Provide historical perspective on engineering design processes, successes, challenges, failures, and their influence on contemporary society.
5. Inspire and instill an appreciation for the engineering profession, its ethics, and practices.
6. Learn and apply engineering design process in proposing and building working devices or models that meet preset constraints and specifications.
7. Introduce students to communication, teaming, and project management skills necessary to excel in today's engineering workplace.

**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 Assignments**

All homework assignments are due one week after the date they are assigned. Late homework will incur a penalty of **20%** unless excused for some sickness or emergency.

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## Course Evaluation

Final grades will be computed using the following weights:

**60% In-class quizzes** and Homework assignments

**15%** Future Challenge Performance

**24%** Robotics Design Reports (2)

**1%** Final report (learning experience)

**Grades:** 100% > A > 90% > B > 80% > C > 65% > D > 50% > F

**In-class quizzes and homework:** Class examinations are **CLOSED BOOKS** and **CLOSED NOTES**. Students are responsible for **ALL** topics covered in class, assigned reading, and homework assignments. Quizzes will be given roughly bi-weekly throughout the semester. Homework assignments will be given throughout the semester. The

quiz/homework grade will be assigned per the formula  $60 \left( \sum_{i=1}^{N_q+1} w(i) * q(i) \right)$  where  $q(i)$  is the sequence of all tests assigned and the homework average, ordered from highest score to lowest score with zeros entered for any tests not taken, and  $N_q$  is the total number of tests assigned. The weighting sequence,  $w(i)$ , is {0.3, 0.25, 0.2, 0.12, 0.08, 0.05, 0, 0, ...}. The homework average is computed by  $\left( \frac{1}{N_h} \right) \left( \sum_{i=1}^{N_h} h(i) \right)$ , where  $N_h$  is the number of homework assignments and  $h(i)$  is the sequence of homework grades (1 or 0). **No make-up quizzes will be given.**

**Future Challenge Performance:** During the lab, groups will be assigned to investigate some idea of future significance for engineering and society. The group will prepare and perform a skit related to their topic.

**Robotics Design Reports:** A robotics competition will be held early in the semester and a second challenge later in the semester. Students will design robots out of Vex parts to perform the challenge in a competitive environment. At the end of each challenge, a report documenting the design and performance of the robot will be done. Each group will submit a report.

**Final Report:** A report describing what you learned in the semester will be handed in at the end of the class. This report should be a self-assessment.

## Attendance

Regular attendance will be taken. If a student misses 15% of classes 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 25% of classes will receive a final course grade of an F and may be administratively withdrawn at the discretion of the instructor.

Tardiness is disruptive, so please be respectful to 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.

## Cell phones

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" and may result in your being administratively dropped from the class.

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

**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>.

Most of your disciplinary questions will be answered by that document.