

ARIZONA STATE UNIVERSITY  
Ira A. Fulton School of Engineering

**EEE/CSE 101**  
**Introduction to Engineering Design**  
**Spring 2007**

**Course Information**

**Class Time/Place:**

Tuesdays and Thursdays 10:40 AM to 11:30 AM. Location: ECG 347

**Lab Time/Place:**

Fridays 2:40 PM to 5:30 PM. Location: GWC 205

**Web Page:**

Blackboard under myASU.

**Instructor**

Prof. Yong-Hang Zhang  
Office: ERC 161  
Email: yhzhang@asu.edu  
Phone: (480) 965-2562  
Personal Webpage: <http://asumbe.eas.asu.edu>

**Office Hours:**

Monday 1:40 PM to 2:30 PM  
Tuesdays and Thursdays 11:50 AM to 12:30 PM

**Texts:**

1. *EEE/CSE 101: Introduction to Engineering Design*, by various authors, ESource Book, Pearson Prentice Hall, 2006.
2. *Strategies for Creative Problem Solving*, by Fogler & LeBlanc, Prentice Hall, 1995.

**Course Objectives:**

One main objective of the *EEE/CSE 101 - Introduction to Engineering Design* course is to excite students about engineering careers and to motivate them and empower them to successfully complete their engineering degree. Other main objectives are to introduce the students to the engineering design process, engineering models, engineering ethics, teamwork, project management, communication skills, and to various areas in electrical and computer engineering through team-oriented design projects. The lectures are complemented with hands-on laboratories and design projects integrating hardware and software tools including visual programming, embedded real-time DSP technology, and instrumentation.

The course intends to instill the following:

1. An understanding and appreciation of engineering as a career and a profession.
2. The ability to use engineering models and design methods to address engineering design problems with emphasis on electrical and computer engineering disciplines.
3. The ability to work in a team environment.
4. Improved written and oral technical communication skills.

**Course Outcomes:**

1. Students are excited about engineering.
2. Students are aware of the ethical issues and societal impact of the engineering profession.
3. Students can use a structured problem solving approach and the engineering design methodology to carry out engineering projects.
4. Students can use computing methods and tools to solve engineering problems.
5. Students can organize projects, manage projects, and work effectively in teams.
6. Students can organize and write engineering reports and documents.
7. Students can prepare and deliver oral presentations.

**Graded Work:**

Graded work in this course includes:

1. Individual computer-based modeling assignments
2. Lab projects
3. Pre-lab quizzes
4. Team-based design projects
5. In-class activities (including attendance & participation)
6. Technical writing, oral presentations, and log book
7. Final exam

**Due Dates and Times**

With the exception of a serious medical emergency, late work is NEVER accepted in this class. All work is to be turned in at the beginning of class on its due date. Late work will be given a zero grade.

**Individual Modeling Assignments:**

There will be a total of three to four modeling assignments in which each student will be asked to engineer physical, mathematical, and computer models of various systems and situations. These assignments should be done individually and will require write ups in the form of technical reports. Late submissions will NOT be accepted, but the lowest grade will be dropped.

**Lab Projects:**

These projects are intended to be team-oriented design and development projects. Early in the semester you will be assigned to a team of about three students. Ten to eleven lab projects will be assigned. The lowest project grade will be dropped. These projects provide hands-on experience in designing systems for various applications. Students should attend the assigned lab sessions to get credit for the conducted projects. Missing a lab session will result in a zero grade on the project or part of the project that is performed during that session.

**Pre-lab Quizzes:**

Students will have to take a web-based pre-lab quiz on Wednesdays or Thursdays before each lab (except the initial lab). The pre-lab quizzes will count for 10% of the course grade. Each pre-lab quiz consists of a set of questions from the reading of the lab assignment. Once a student initiates a quiz, the student gets 45 minutes to complete it. Each student is required to take the quiz by himself/herself and should not receive any help from anyone else. The lowest pre-lab quiz grade will be dropped.

**Design Projects:**

Working in teams, students will use the engineering design process, including conceptualization, designing, modeling, and testing, to develop and complete two design projects. As part of the engineering design process, each team will submit written proposals, progress reports, and a final technical report; each team will also give an oral presentation about the project in the class. As with all other work in this class, no late work will be accepted.

**In-Class Activities and Attendance:**

On several occasions, you will be asked to do an in-class activity that you will turn in for credit. If you are late or absent, you will receive no credit for the in-class activity.

*If you are absent more than 5 times, you will receive an E grade for the entire course.* If you know in advance that you are going to be late or absent for a legitimate reason, please let me know ahead of time via e-mail, or in person, or by phone. You are responsible for everything covered, announced, or distributed in lectures and/or on the course web site.

**Log Book:**

You will be asked to keep an engineering team log book for this class. Contents should include, but are not limited to: the course syllabus, team meeting minutes, copies of reports and presentations, and copies of all graded course material including assignments, design projects, and in-class activities.

**Exams:**

There will be one Final exam to be held at **10:00-11:50 AM on Fri., May 4.** Please mark this date in your calendar. There will be no make-up exams. If you miss the Final exam, you will receive a zero grade on the Final exam.

**Grading Formula:**

- Individual Assignments 15%
- Lab Projects 30%
- Pre-lab Quizzes 10%
- Design Projects (2 @ 12% each) 24%
- In-Class Activities & Attendance 10%
- Log Book 5%
- Final Exam 15%

Your course grade is determined based on your total score (final average) S as follows

Final Average	Course Grade
$S \geq 96$	A+
$93 \leq S < 96$	A
$90 \leq S < 93$	A-
$86 \leq S < 90$	B+
$83 \leq S < 86$	B
$80 \leq S < 83$	B-
$76 \leq S < 80$	C+
$73 \leq S < 76$	C
$70 \leq S < 73$	C-
$60 \leq S < 70$	D
$S < 60$	E

**Academic Integrity:**

Students should abide by the Student Academic Integrity Policy and ASU's Student Code of Conduct which can be found at [http://www.asu.edu/studentaffairs/studentlife/judicial/academic\\_integrity.htm](http://www.asu.edu/studentaffairs/studentlife/judicial/academic_integrity.htm). The highest standards of academic integrity are expected of all students. The failure of any student to meet these standards may result in suspension or expulsion from the university and other sanctions as specified in the academic integrity policies of the individual colleges. Violations of academic integrity include, but are no limited to, cheating, fabrication, tampering, plagiarism, or facilitating such activities. Under no circumstances will violations of academic integrity be tolerated. Penalties include