



**CATALOG YEAR 2006-2008**  
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COLLEGE: Arts and Sciences

Current Catalog Page(s) Affected p. 300

**Course: SENG 4360** Add:  Delete:  Change: Number  Title   
 (check all that apply) SCH  Description  Prerequisite

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current catalog, provide change and attach page with changes in red and provide a brief justification.

**SENG 4360** *Systems Simulation*. Three semester hours.  
 Study the structure, logic, methodologies, and computer techniques for simulating systems. Topics include fundamentals of discrete simulation, design-modeling and subsequent analysis, model verification and validation, and understanding and predicting the behavior of systems. Prerequisites: COSC 1336, COSC 1136 and SENG 3350.

**Justification:** New elective course for students wanting to learn about Systems Simulation.

**Program:** Add:  Change:  Attach new/changed Program of Study description and 4-year plan. If in current catalog, provide change and attach page with changes in red.

**Minor:** Add:  Delete:  Change:  Attach new/changed minor. If in current catalog, provide change and attach page with changes in red.

**Faculty:** Add:  Delete:  Change:  Attach new/changed faculty entry. If in current catalog, provide change and attach page with changes in red.

**College Introductory Pages:** Add information:  Change information: . Attach new/changed information. If in current catalog, provide change and attach page with changes in red.

| Approvals:                               | Signature | Date  |
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| Chair<br>Department Curriculum Committee | _____     | _____ |
| Chair<br>Department                      | _____     | _____ |
| Chair<br>College Curriculum Committee    | _____     | _____ |
| Dean                                     | _____     | _____ |

# SENG 4360 Systems Simulation

## Description

Study of the structure, logic, methodologies, and computer techniques for simulating systems. Topics include fundamentals of discrete simulation, design-modeling and subsequent analysis, model verification and validation, and understanding and predicting the behavior of systems.

Prerequisites: ENGR 2304, SENG 3350.

## Class schedule

TBA

## Office hours

TBA

## Students' learning outcomes

Students who successfully complete the course will demonstrate the following outcomes:

- Explain the fundamentals of simulation methods used to model and analyze complex real world systems.
- Apply statistical methods to handle random inputs and outputs from simulation models, and perform model input and output analysis
- Describe simulation tools in systems modeling, design and analysis.
- Apply different techniques in formulating, modeling and analyzing complex real world problems.
- Explain hybrid systems, model validation, and verification.

## Textbook

Simulation Modeling and Analysis, by Law, A. M, 4th edition. McGraw-Hill Inc., 2006. ISBN 0073294411.

## Grading

Your grade will be comprised of homework sets and quizzes, three in class tests, and one in-class final examination. The grade breakdown is as follows:

- Homework assignments and quizzes: 20%
- Midterm tests: 15% each
- Final exam: 35%

## Assignment grading

- A: 90-100
- B: 80-89
- C: 70-79
- D: 60-69
- F: 0-59

## General Guidelines

### **Classroom Behavior**

The College of Arts and Sciences encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The College will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

### **Copyright Restrictions**

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to \$ 100,000; criminal penalties include a fine up to \$ 250,000 and imprisonment.

Copyright laws do allow students and professors to make photocopies of copyrighted materials under strict conditions. You may not copy most, much less all, of a work, but you may copy a limited portion of a work, such an article from a journal or a chapter from a book. These copies must be for your own personal academic use or, in the case of a professor, for personal, limited classroom use. In general, the extent of your copying should not suggest that the purpose or the effect of your copying is to avoid paying for the materials. And, of course, you may not sell these copies for a profit. Thus, students who copy textbooks to avoid buying them or professors who provide photocopies of textbooks to enable students to save money are both violating the law.

### **Plagiarism and Cheating**

Plagiarism is the presentation of someone else's work as one's own. Recently, the Internet has complicated the picture. Getting something from the Internet and presenting it as one's own is still plagiarism. Copying another student's paper or a portion of the paper - is usually called "copying". Neither plagiarism nor copying will be tolerated. Should a faculty member discover that a student has committed plagiarism, the students will receive a grade of "F" in that course and the matter may, if necessary, be referred to the Associate Vice President for Student Affairs for possible disciplinary action.

### **Students with Disabilities**

Texas A& M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with

the Disabilities Services Coordinator and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

### **Incomplete Grade Assignments**

Incompletes are discouraged and are assigned only under extenuating circumstances. To qualify for an Incomplete, the student must be passing the course and have completed 85-90\% of the requirements at the time the Incomplete is approved. In fairness to those students who complete the course as scheduled, only under extremely exceptional conditions will an Incomplete ("I") be changed to an "A".

### **Independent Study Courses**

Independent Study (IS) courses are offered only under exceptional circumstances. The chair of the department is to determine whether the IS will be offered on the basis of the student's and the University's needs, as certified by the University Registrar. No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

### **Student Responsibility for Dropping a Course**

It is the responsibility of the STUDENT to drop the course before the drop date. Faculty are not responsible for dropping students who suspend class attendance".

### **Final Examination**

Final Examinations must be comprehensive and must be given on the day specified.

### **Student E-mail Address**

All students must obtain a TAMIU e-mail address.