



CATALOG YEAR 2006-2008
(Please use separate form for each add/change)

COLLEGE: Arts and Sciences

Current Catalog Page(s) Affected p. 300

Course: **ENGR 2372** 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.

ENGR 2372 *Introduction to Design of Experiments*. Three semester hours.
Basic probability theories and hypothesis testing will be introduced. Single factor ANOVA. Randomized blocks and Latin squares, two-factorials and 2k factorial designs, robust parameter design and uncertainty analysis. Software packages are used for data mining and interpretation, with application to engineering and/or other systems. Prerequisite: ENGR1201 and MATH 2413.

Justification: Enhance the pre-engineering program by introducing design f experiments to students at the sophomore level.

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
Chair Department Curriculum Committee	_____	_____
Chair Department	_____	_____
Chair College Curriculum Committee	_____	_____
Dean	_____	_____

ENGR 2372 Introduction to Design of Experiments

Spring 2007

Class Time: to be determined

Location: TBD

I. Instructor and Department Information

Instructor TBD

Office TBD

Phone TBD

E-mail TBD

Office Hours TBD

Department Math and Physical Science

II. General Course Information

Text Books

Design of Experiments for Engineers and Scientists, Jiju Antony

Statistical Methods for Engineers, 2nd Edition, Geoffrey Vining and Scott Kowalski.

Design of Experiments with MINITAB by Paul G. Mathews

Course Outline

Basic probability theories and hypothesis testing will be introduced. Single factor ANOVA. Randomized blocks and Latin squares, two-factorials and 2k factorial designs, robust parameter design and uncertainty analysis. Software packages are used for data mining and interpretation, with application to engineering and/or other systems.

Prerequisite: ENGR1201 and MATH 2413

Mid-semester March 2, 2007

Last day to drop w/o record Jan 31, 2007

Last day to drop with record April 12, 2007

Points 15%+20%+20%+45%=100% (see detail in Grading)

Grades A [100, 90], B(90, 80], C(80, 70], D(70, 60], F(60, 0] in %

Gentlemen/gentlewomen No phone calls or pagers in class time

1. Grading

Your final grade is comprised of homework, in-class test and one comprehensive final exam. The

breakdown is following

Homework 15% (total)

In-class Test 20% (total two)

Final Exam 45% (one)

2. Learning Objectives

1. Basic probability theories and hypothesis tests reviewed.

2. Single factor and ANOVA analysis.

3. Randomized blocks and Latin squares, two-factorials and 2^k factorial designs.
4. Robust parameter design and uncertainty analysis.
5. Data mining and interpretation using Minitab and Matlab.
6. Design and analysis of engineering systems.

3. Instructional Activities and Methods

The lectures are designed to facilitate students to acquire the statistical knowledge as specified in Learning Objectives. Practical examples will be presented in detail and worked out with students in the class following the theoretical introductions. Homework will be assigned regularly so that students have opportunity to apply the theories and tools learned from class to resolve practical problems independently. Your homework is encouraged to be completed using existing statistical software such as Matlab's statistical tool box and Minitab. Your homework should be submitted prior to the next class meeting. The in-class tests and final exam are conducted to evaluate the knowledge acquisition of students. Therefore students are required to attend all tests and final exams unless you are in EXTREMELY unusual circumstances. In that case documented proofs such as those from doctors are required. Tests and final exam should be treated as cumulative in knowledge because of the nature of statistics. The final exam for the lectures is comprehensive and it spans the knowledge from the beginning to the end of the semester. Students can access to instructor's office or Center for Advancement and Scholastic Achievement (CASA-Math Tutoring Services)

College of Arts and Sciences – To Achieve Integrity and Accomplishment

Class Attendance

Students are required to attend all classes including the tests and final exams. If you are going to miss the class, an advanced notification should be sent to instructor via email (preferably one week). If you skip a class that happens to have the test with no rational excuse associated with documented proof, a zero will be applied to that the test. The tests and the final exam are required for everyone to complete and pass the course. Your cell phones, beepers or electronic devices that cause noise should be turn during class time.

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