

College Document # \_\_\_\_\_

UCC Document # 231

Date Received \_\_\_\_\_

CATALOG YEAR 2006-2007

(Please use separate form for each add/change)

COLLEGE/SCHOOL : \_\_\_\_\_Arts and Sciences\_\_\_\_\_

Current Catalog Page(s) Affected \_\_\_\_\_p. 303\_\_\_\_\_

**Course:** Add: X Delete: \_\_\_\_\_  
(check all that apply) Change: Number \_\_\_\_\_ Title \_\_\_\_\_ SCH \_\_\_\_\_  
Description \_\_\_\_\_ Prerequisite \_\_\_\_\_

If new, provide Course Prefix, Number, Title, SCH Value, Description, prerequisite, and lecture/lab hours if applicable. If in current catalog, copy and paste the text from the and indicate changes in red.

**MATH 5367** *Numerical Methods for PDE I*. Three semester hours.

A study of algorithms for the numerical solution of hyperbolic and parabolic partial differential equations using the finite difference method; stability and convergence of methods and error bounds. Applications from physics and engineering will be emphasized. Prerequisite: Graduate standing and permission of instructor.

**Justification:** New course for the graduate program in Mathematics.

**Program:** Add: \_\_\_\_\_ Change: \_\_\_\_\_ Attach new/changed Program of Study description and 4-year plan. If in current catalog, copy and paste the text from the and indicate changes in red.

**Minor:** Add: \_\_\_\_\_ Delete: \_\_\_\_\_ Change: \_\_\_\_\_ Attach new/changed minor. If in current catalog, copy and paste the text from the and indicate changes in red.

**Faculty:** Add: \_\_\_\_\_ Delete: \_\_\_\_\_ Change: \_\_\_\_\_ Attach new/changed faculty entry. If in current catalog, copy and paste the text from the and indicate changes in red.

**College Introductory Pages:** Add information: \_\_\_\_\_ Change information: \_\_\_\_\_ Attach new/changed information. If in current catalog, copy and paste the text from the and indicate changes in red.

Approvals:	Signature	Date
Chair Department Curriculum Committee	_____	_____
Chair Department	_____	_____
Chair College Curriculum Committee	_____	_____
Dean	_____	_____

## Syllabus

Course Number and Title	: MATH 5367 Numerical Methods for PDE I.
Prerequisite	: Graduate standing and permission of instructor.
Instructor	: To be determined
Semester	: To be determined
Office	: To be determined
Telephone Number	: To be determined
E-Mail	: To be determined
Class Hours	: To be determined
Class Room	: To be determined
Office Hours	: To be determined

### Objectives:

Upon the completion of this course, the student is expected to command an understanding of the content, materials, and contemporary issues specific to Numerical Methods at the graduate level.

### Student Learning Outcome

Upon successful completion of the course, the student is expected to demonstrate good knowledge of the core topics of the course, develop proper problem-solving skills at the course level, and have the foundations for more advanced mathematics and mathematics-related studies.

### Textbook

1. **Required:** To be determined. ISBN-X-XXX-XXXXXX-X
2. **Supplemental:** To be determined. ISBN-X-XXX-XXXXXX-X

### Course Description:

A study of algorithms for the numerical solution of hyperbolic and parabolic partial differential equations using the finite difference method; stability and convergence of methods and error bounds. Applications from physics and engineering will be emphasized.

### Skills Assessments

Students are expected to have comprehensive understanding of all topics treated in both the text and the lecture, and exams will test for knowledge of both. The readings, lectures, and class discussions are meant to supplement each other to carry on an inquiry into the topics at hand, although certain repetition and reinforcement are intended and desirable.

There will be assignments/homework/project, one midterm exam, and one final exam.

Attendance and participation are required at all class meetings. All students are responsible for all things taken up in class including announcements regardless of absences.

### Make-ups:

A student is allowed to arrange for a make-up exam only if that student was hospitalized or quarantined by a physician with a documented proof and such arrangement for make-up was done as soon as getting back. Unsubstantiated claims will receive a zero grade.

## GRADING POLICIES

Grades are recorded from A to F, inclusive and are mailed to students at the end of semester. Numerical values corresponding to these letters are as follows:

A	90-100, excellent
B	80-89, good
C	70-79, average
D	60-69, passing
F	Below 60, failure
W	Dropped or withdrawn
I	Incomplete

## ATTENDANCE POLICY

Frequent or persistent absences may preclude a passing grade or cause a student to be dropped from the course by the faculty.

A student who abandons the course without officially withdrawing will receive a grade of F, regardless of when that student ceases to attend.

### Class Format:

Class will consist of a mixture of lecture, discussion, and in class activities. Active participation in class is encouraged. It will always help to read material before the class in order to gain more from lectures and be more prepared for lively discussion in classroom.

### Evaluation:

1. There will be assignments/homework/project, one midterm, and a final examination. The aim is to ensure that you have understood the ideas and concepts presented and have gained certain ability to reason from a cognitive perspective. The final will be comprehensive.
2. Students are encouraged to participate in class discussions. The purpose of these is to allow a more in-depth discussion of the issues discussed in the lectures and readings.
3. All assignments/homework/project and requirements must be completed by the start of the final exam to pass the course.

Summary: Points will accumulate over the semester such that there will be:

	POSSIBLE POINTS TOTAL
1 Midterm Exam	X Points
1 Final	Y Points
assignments/homework/Project	Z Points
<b>TOTAL</b> Possible Points	100 Points

### Important Dates:

To be determined

## 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.

## **Plagiarism and Cheating**

Should a faculty member discover that a student has committed plagiarism, the student will receive a grade of F in that course and the matter will be referred to the Executive Director of Student Life 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 students responsibility to register with the Director of Student Counseling and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

## **Incompletes**

Incompletes are discouraged and are assigned only under extenuating circumstances. In fairness to those students who complete the course as scheduled, under no circumstances will an Incomplete (I) be changed to an A unless the student has experienced a death in the immediate family or has a (credible) written medical excuse from a physician.

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

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

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

All students must obtain a TAMIU e-mail address.

## **Other Important issues to consider:**

1. Arrive classroom on time.

2. Turn off cellular phones and pagers. One point from term grade will be deducted each time your phone or pager rings during class time.

**This syllabus is subject to announced changes through the semester.**