1 MthSc 434/634 Section 2 : Fall '03

Advanced Engineering Mathematics

(Internet Address: http://www.math.clemson.edu/~vjervin/434_634-f03)

2 Instructor: Dr. Vincent J. Ervin

Office: Martin O-205 e-mail: vjervin@clemson.edu

Office Hours: MW: 2:30 – 3:20, T: 4:45 – 5:15, and by appointment

Telephone: 656-2193

3 Attendance

Class meets TTh: 3:30 – 4:45 in Martin M-201

Attendance: Students are allowed three unexcused absences during the semester. More than three unexcused absences may result in a student being dropped from the course.

Attendance at scheduled class tests and the final exam is **MANDATORY,** unless prior consent has been given by the instructor. No makeup tests will be given. In the event of an "excused absence" from a test that proportion of the students final grade will be added to that of the students final exam.

4 Late Policy

If the Instructor is more than 15 minutes late, the class will be considered cancelled.

5 Course Material/Outline

5.1 Course Material

Required Text: Advanced Engineering Mathematics, 8th Ed., by Erwin Kreyszig

Recommended: Linear Algebra and its Applications, 3rd Ed., by David Lay

5.2 Course Description and Outline

This course is designed to introduce students to linear algebra, vector spaces, Fourier Series, orthogonal functions, and partial differential equations relevant to engineers, applied mathematicians, and physical scientists.

The following material will be discussed:

1. Linear Algebra, Matrix Analysis and Eigenvalues (Text: Ch. 6-7, and lecture notes),

2. Vector Spaces, Norms, and Inner Products (Text: Ch. 6 Sec.7, and lecture notes),

3. Orthogonal Systems of Functions and Strum-Liouville Theory (Text: Ch. 4 Sec. 7, and lecture notes),

4. Fourier Series and Fourier Transforms (Text: Ch. 10, and lecture notes),

5. Partial Differential Equations and Numerical Methods (Text: Ch. 11, Ch. 19, and lecture notes).

5.3 Course Objective

At the conclusion of this course you should be able to derive a set of partial or ordinary differential equations to model a physical phenomenon in your area, analyze such a model, and successfully compute (at least theoretically) some or all of the important quantities using techniques learned in this course.

6 Course Assessment

Assessment for the class will be based upon class tests, homework assignments/quizzes, and a final exam.

6.1 Class Tests: 45%

There will be two tests given during the semester. The **dates** for the tests are:

Test 1: **Tuesday September 30**

Test 2: **Tuesday November 18**

6.2 Homework Assignment/Quizzes: 22%

Homework assignments/quizzes will be given throughout the semester. Homework assignment must be stapled, self explanatory, and clearly legible. Late homework assignment will **not** be accepted.

6.3 Final Exam: 33%

The final exam for this course is scheduled for Saturday December 6, 8:00am – 11:00am.

6.4 Partial Credit

No quibbling over assigned partial credit. The instructor reserves the right to assign **negative** partial credit to unrelated or extraneous answers.

6.5 Grading Scale:

A = 90% - 100%, B = 80% - 89%, C = 70% - 79%, D = 60% - 69%, F = Below 59%.

The -, + break points are 0–3, and 7–0.

7 434/634 Distinction

Students enrolled in MthSc 634 will be expected to demonstrate a higher level of comprehension, and ability to generalize the material presented to new settings, than students registered in MthSc 434. This added maturity of knowledge will be tested on the 634 homework assignments, tests, and final exam.

8 Statement on the Trial Period for Plus/Minus Grading

Clemson University is committed to all aspects of academic excellence, including the exploration of possible improvements to grading policies. Accordingly, beginning with the 2002-2003 academic year, a trial period for the plus/minus grading system will be in effect for two years. Although the trial will be ongoing, only non-plus/minus grades will be used to calculate GPRs. There will be no effect on transcripts or grade reports, and the data will be used solely for research purposes.
If at the end of the trial period the plus/minus system is implemented, its implementation will affect all current students at once; i.e., the change will be announced in the Undergraduate Announcements for the year in which it is to take effect. This should ensure that a smooth transition is made.
For more information on this grading system, please see the Registrar s web site at www.registrar.clemson.edu.

9 Academic Dishonesty

As members of the Clemson University community, we have inherited Thomas Green Clemsons vision of this institution as a high seminary of learning. Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.
The policy as stated on page 128 of the Student Handbook will be strictly enforced. Please be careful to avoid behavior which might lead to a charge of academic dishonesty.

10 Disability Access Statement

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities. Students are encouraged to contact Student Disability Services to discuss their individual needs for accommodation.