

# MATH 251-504: Engineering Mathematics III

Fall 2011

**Instructor:** Igor Zelenko

**Office:** Milner 324

**E-mail:** zelenko AT math.tamu.edu (please include Math251 in title)

**Web page:** <http://www.math.tamu.edu/~zelenko/>

**Office hours:** MWF 2:00pm-3:00pm and by appointment (*in Milner 324*).

**Meeting Times/Locations:** The lecture meets MWF 12:40-1:30 in HELD 109.

**Math 251 Course Home Page URL address:**

<http://calclab.math.tamu.edu/docs/math251/>

**CATALOG DESCRIPTION:** Vector algebra, calculus of functions of several variables, partial derivatives, directional derivatives, gradient, multiple integration, line and surface integrals, Stokes' theorems.

**PREREQUISITES:** Math 152 (Calculus II) or equivalent.

**CREDITS:** 3 credits.(Credit will not be given for more than one of MATH 221, 251 and 253.)

**TEXTBOOK:** Calculus: Early Vectors (Aggie Version), by Stewart, Brooks/Cole, ISBN 0534493483.

This course covers Chapters 11 – 14.

**EXAM SCHEDULE:** There will be three exams tentatively on Wednesday 9/28/, 10/26, 11/23. Final exam will be on Monday, 12/12 3:30-5:30.

## GRADE INGREDIENTS:

**Option I:** 3 Exams (17% each ), Final Exam (24%), On-line HW (8%), Quiz & other HW (17%).

**Option II:** 3 Exams (20% each ), Final Exam (20%), On-line HW (10%), Quiz & other HW (10%).

The larger of Option I and Option II will be your final score.

**LETTER GRADES:** A(90-100%), B(80-89%), C(70-79%), D(60-69%), F(0-59%)

(I have been known to curve final grades if I feel that it is warranted.)

**EXAMS:** Exams 1, 2&3 will be given during the regular class time. Calculators will NOT be allowed on the exams and Final. The Final exam will be comprehensive. Remember to bring your ID with you for all exams!

**ON-LINE HOMEWORK** will be assigned from the WebAssign Homework system. All information regarding online homework can be found at <http://www.math.tamu.edu/ehmwk>.

**QUIZZES** will be given in lecture. Additional paper HOMEWORK (=take-home quiz) may be assigned and is due on the announced dates. Late homework will not be accepted.

**SUGGESTED HOMEWORK:** You can find practice problems in my webpage. These problems will not be graded. However, it is **IMPERATIVE YOU DO THE SUGGESTED HOMEWORK TO PREPARE FOR QUIZZES AND EXAMS!!!**

**CLASS ANNOUNCEMENTS AND E-MAIL POLICY:** Class announcements will be posted on my homepage. It is your responsibility to check them weekly. Some important course announcements might be sent to your NEO e-mail account. It is your responsibility to check the NEO account and get familiar with the announcements.

**ATTENDANCE is REQUIRED:** I will take daily attendance. If you sign the roll sheet, you are expected to remain in the classroom for the entire 50 minutes. More than 3 absences may have a detrimental effect on your grade especially in borderline cases. Come to class on time.

**MAKE-UP POLICY:** Make-ups for missed quizzes, home assignments and exams will only be allowed for a university approved excuse in writing. Wherever possible, students should inform the instructor before an exam or quiz is missed. Consistent with University Student Rules, students are required to notify an instructor by the end of the next working day after missing an exam or quiz. If there are confirmed circumstances that do not allow this (a written confirmation is required), the student has two working days to notify the instructor. Otherwise, they forfeit their rights to a make-up.

**LATE WORK POLICY:** No late work will be accepted unless there is a university approved excuse in writing.

**COURSE OBJECTIVES:** We will cover much of chapters 11-14 of the text. Most of this course covers three-dimensional analytic geometry and vectors, partial derivatives, multiple integrals, and vector calculus.

Students should be able to demonstrate an understanding of the material as covered during lectures and demonstrate ability to use these concepts on exams, quizzes and homework. At the end of this course, students should be able to visualize surfaces in 3-dimensional space; apply partial differentiation to extremal problems and to variety of engineering applications; apply techniques of multiple integration to a variety of physical and engineering applications; find potential of conservative vector field and apply various types of Stokes' theorem.

**TENTATIVE WEEKLY SCHEDULE:** All changes will be announced in class or via e-mail.

Week 1: 11.1-11.4	Week 2: 11.5-11.6	Week 3: 12.1,12.3, 12.4
Week 4: 12.5, 12.6, 12.7	Week 5: 12.8, Exam 1	Week 6: 14.1, 14.2
Week 7: 13.1, 13.2, 13.3	Week 8: 13.4, 13.5, 13.6	Week 9: 13.8, Exam 2
Week 10: 13.9, 13.10	Week 11: 14.3, 14.4	Week 12: 14.6, 14.7
Week 13: Exam 3	Week 14: 14.5, 14.8, 14.9	Week 15 Review

**GETTING HELP:** First, if you have a question, do not hesitate to ask before, after, or during a class. Second, I encourage you to attend my office hours to get individual help. You do not need an appointment to come to regular office hours. If your schedule does not permit you to come to the

announced office hours, send me an e-mail with your schedule and we will make an appointment to meet at some other day/time.

**GRADE COMPLAINTS:** Sometimes the instructor might make a mistake grading your work. If you feel that this has happened, you have one week since the graded work was handed back to you to talk to the instructor. If a mistake is confirmed, the grade will be changed. No complaints after that deadline will be considered.

**STUDENTS WITH DISABILITIES:** The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Services for Students with Disabilities (Cain Hall, Room B118, or call 845-1637).

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**SCHOLASTIC DISHONESTY:** Copying work done by others, either in class or out of class, looking on other students papers during exams or quizzes, having possession of unapproved information in your calculator/computer/phone, etc., and/or having someone else do your work for you are all acts of scholastic dishonesty. These acts, and other acts that can be classified as scholastic dishonesty, will be prosecuted to the full extent allowed by University policy. In this class, collaboration on graded assignments, either in class or out of class, is forbidden unless permission to do so is granted by the instructor. For more information on university policy regarding scholastic dishonesty, see University Student Rules at <http://studentrules.tamu.edu/>. "An Aggie does not lie, cheat, steal, or tolerate those who do." Visit <http://www.tamu.edu/aggiehonor> and follow the rules of the Aggie Honor Code.

**NOTE:** This syllabus is subject to change at the instructor's discretion. The instructor reserves the right to make any changes he considers academically advisable. It is your responsibility to attend classes and keep track of the proceedings.