

**SECTION C1 (3 Credits)****SYLLABUS MATH 250****FALL 2010****INSTRUCTOR:** Gus Rainsford **EMAIL ADDR:** rainsfor@math.rutgers.edu

**OFFICE HOURS (unless announced otherwise):** Monday and Wednesday 5:00 - 6:00 PM in room 208 in Hill Center, and Tuesday 1:00 - 3:00 PM in room 208 in the Hill Center on Busch Campus. Office Hours may be possible on some Fridays from 1:00 - 2:00 PM by appointment.

**PREREQUISITE:** Calculus: Rutgers Math 152 or appropriate performance on the placement test in mathematics.

**TEXT:** Elementary Linear Algebra, A Matrix Approach, 2nd edition **Author:** Spence, Insel, Friedberg **Publisher:** Prentice Hall Publishing, ISBN 978-0-13-187141-0.

**Note 1: (change of class days)** On Wednesday Sept 8, Rutgers will follow Monday's schedule of classes. On Monday November 22, Rutgers will follow Wednesday's schedule of classes

**CALCULATOR/CELL PHONE:** Calculators will not be permitted on exams or quizzes. Cell phones and related devices are not permitted on exams. Cell phones and electronic devices should be turned off in class.

**GRADING:** Quizzes: 50 pts Matlabs: 100 pts. Exam 1: 100 pts  
Exam 2: 100 pts Final: (comprehensive) 200 pts Total: 550 pts

**EXAMS:** Exams are closed book: no notes, or books etc are permitted. Calculators may NOT be used on exams. You may not leave the room during an exam except to hand in your exam. Once you leave the room, you may not come back in to continue the exam.

**Midterm I** is *tentatively* scheduled for Wednesday October 6. **Midterm II** is *tentatively* scheduled for Monday November 15. **The Final Exam** will be comprehensive and will be held on Wednesday December 22, 4:00 PM - 7:00 PM The room for the final exam will be announced in class. Please note: Firm dates for Midterm Exams exams will be announced in class.

**MISSED EXAMS:** If you miss taking an exam (for some sound documented reason), you must bring in a formal letter from the dean's office excusing your absence for the day of the exam in order for your absence to be excused. For such an excused absence, the problems on the final exam which cover the material tested on the missed exam will be selected to be the replacement or "makeup" for the missed exam. **No other replacement or makeup exam will be given for any reason. NO EXCEPTIONS!** You must contact either me, or the math office 445 2390 within 3 days of the missed exam. **Missed exams, which are not excused, are recorded as a 0 grade.** If Rutgers cancels classes, (for snow storms etc), on the day of an exam, the exam will be given on the first day we meet when our class resumes.

**CLASS PARTICIPATION:** You are responsible for attending all class meetings. Poor attendance will be a factor in deciding borderline grade situations. You are responsible for all material covered in lecture as well as all announcements made in lecture. Announcements regarding quizzes, computer labs and exams, etc. will not be sent to students via email or phone. Make arrangements with other students to get lecture notes and any announcements in the event you miss lecture. Not knowing the day of an exam or quiz is NOT an acceptable excuse for missing the exam or quiz. Not knowing the due date for an assignment is NOT an acceptable excuse for not handing in the assignment.

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**QUIZZES:** Quizzes will be given throughout the semester. The dates for the quizzes will be announced in class. They will be given at the end of the class and will be based on the homework problems and class notes. Makeup quizzes will not be given under any circumstances. Missed quizzes are given a grade of zero. Since we realize that at times, you may have reason to miss class, all but the two lowest quiz scores will count toward your quiz score for the course.

**MATLAB:** This is a MATLAB section of Math 250. In addition to homework practice problems, quizzes, and exams, you will carry out linear algebra calculations using MATLAB in one of the Rutgers computer labs (or on your own computer, if you have a copy of the Student Edition of MATLAB). Some of these labs cover applications described in chapters 1.5, 2.2 and 5.5. These chapters are not covered in lecture as they contain examples of applications only. You will create a printed writeup of your MATLAB sessions to hand in for grading. NO PROGRAMMING KNOWLEDGE OF MATLAB IS REQUIRED. There are six labs.

The lab assignments are listed on the math department webpage

[www.math.rutgers.edu/courses/250](http://www.math.rutgers.edu/courses/250)

The MATLAB software package is installed on PC's in all the Rutgers public computer labs (in ARC, Loree, College Avenue, Livingston).

Links to MATLAB tutorials and related web sites can be found on the course web page.

Note: Some of the MATLAB assignments use the symbolic toolbox, which is not installed in the computers in the engineering school running MATLAB. The MATLAB program is not available on MacIntosh computers in the Rutgers public computer labs.

There will be six MATLAB assignments; the due dates will be announced in class. SUBMIT PRINTED VERSIONS (not electronic) AT THE BEGINNING OF THE CLASS PERIOD ON THE DUE DATE; late submissions are not accepted. A missed lab will be given a grade of zero. The five best scores will be counted.

**SPECIAL NEEDS:** If you require special accommodations during exams or in class, you must see the Rutgers Office of Disability Services and discuss your case with them. Requests for special accommodations will NOT be honored without a letter from the Rutgers Office of Disability Services requesting the accommodations. Such letters must be presented in a time frame sufficient to allow for the accommodation to be met. To insure your needs will be met this semester, please see the Dean of Disabilities Services ASAP. For more information go to <http://disabilityservices.rutgers.edu>

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**PRACTICE PROBLEMS:** Students are encouraged to do all the problems as they are practice problems for exams and quizzes. Homework problems will not be collected or graded.

PLEASE NOTE: Practice problems may not be restricted to this list. Any additional problems that are assigned will be announced in lecture. (**TF:** indicates true-false questions)

### Homework/Practice Problems

- 1.1 1 – 31 odd, **TF: 37-56**, 71, 75, 79, 81, 82
- 1.2 1 – 43 odd **TF: 45-63**, 67, 68, 75, 76, 77, 78
- 1.3 1 – 55 odd **TF: 57-76**, 81
- 1.4 1 – 43 odd **TF: 53-72** 74 – 78, 81 – 84, 87 – 91
- 1.6 1 – 43, odd **TF: 45-64** 70, 72
- 1.7 1 – 57, odd **TF: 63-82**, 87, 89
- 2.1 5, 7, 9, 11, 13, 15, 17, 19, 22, 23, 25, 27, 29, 31, **TF: 33-50**
- 2.3 1, 3, 9, 11, 13, 17, 19, 23, 25, 29, 31 **TF: 33-52**, 54, 59, 61, 67, 69, 71, 83
- 2.4 1, 3, 7, 9, 19, 27, 29 **TF: 35-54**, 64
- 2.5 1, 3, 9
- 2.6 1, 3, 5, 9, 11, 13, **TF: 33-41**, 42, 43, 44, 45, 46
- 3.1 1, 3, 9, 11, 13, 14, 15, 21, 23, 27, 29, 31, 37, 43 **TF: 45-63**
- 3.2 5, 6, 7, 8, 11, 13, 17, 21, 27, 33, **TF: 39-58**, 59, 63, 67, 69 – 75
- 4.1 1, 3, 5, 9, 11, 13, 19, 21, 27, 29, 33 **TF: 43-51, 57-62**, 67, 69, 72, 73, 74, 78, 81, 83, 85, 89, 93
- 4.2 1, 3, 5, 7, 17, 19, 21, 25, 27 **TF: 33-50**, 53, 54, 59, 63, 65
- 4.3 1, 3, 5, 7, 9, 11, 15, 17, 19, 25, 27 **TF: 41-57, 59-60**, 63, 65, 69, 73 – 78, 83
- 5.1 1, 3, 7, 9, 13, 17, 23 **TF: 41-46, 55-60** 63, 64, 66, 67, 68, 69, 72, 73, 74
- 5.2 1, 5, 9, 11, 13, 15, 17, 19, 21, 41 **TF: 53-72**, 77, 79, 81, 85, 86
- 5.3 1, 3, 5, 7, 11, 15, 17, 19 **TF: 29-48**, 49, 51, 55, 57, 61, 63, 65, 73, 77, 78, 81, 82, 83, 85
- 6.1 3, 5, 7, 9, 11, 13, 15, 17, 25, 29, 33, 37, 43, 49, 51, 53 **TF: 61-80**, 95, 97, 98
- 6.2 1, 3, 7, 9, 13, 17, 21, 25, 29, 33, 37 **TF: 41-52**, 55
- 6.3 1, 3, 5, 9, 11, 17, 19, 21 **TF: 33-56**, 59, 61, 67, 69, 71, 73, 75
- 6.4 1, 5, 17, 21, **TF: 28-32**
- 6.5 3, 7, 9, 11, **TF: 17, 21-29**
- 6.6 3, 5, 13, 15, 17, 19, **TF: 21-40**