Many people who have never had occasion to learn what mathematics is confuse it with arithmetic and consider it a dry and arid science. In actual fact it is the science which demands the utmost imagination.
--Sofya Kovalevskaya, 1890

By registering for this course, you are agreeing to the terms and policies expressed in this syllabus.

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Office Hours: Mondays 2:30 – 4:30 pm; Tuesdays 4:30 – 5:30 pm; Thursdays 10:30 am – 12:00 pm. Additional times arranged by appointment.

Meeting times and places: TR 3:00 – 4:15 pm; Pereira Hall 206


Prerequisites: Mathematics 250 and Mathematics 248 or equivalent. Students who received a letter grade of D in either of these courses are strongly encouraged to retake it before taking Math 350.

Important Dates:  
October 2: Midterm Examination I  
October 10: Midterm Deficiency Reports Due  
October 31: Last day to withdraw or apply for Credit/NoCredit  
November 20: Midterm Examination II  
November 27: No Class (Thanksgiving Break)  
December 9: Final Examination

Course Format: This course will rely heavily on student participation. You will each be required to present homework problems and participate in lectures and in-class group or individual work. It is imperative that you read your textbook and come prepared to participate in class.
**Course Description and Goals:** Linear algebra dates back to the 19th century and is the art of solving systems of linear equations. Presently, linear algebra is the branch of mathematics concerned with the study of vector spaces (or linear spaces) and linear transformations. Linear algebra has extensive applications in the natural sciences and the social sciences, since nonlinear models can often be approximated by linear models.

This course consists of a continuation of the material you were introduced to in MATH 250. We will cover various sections of chapters 1 – 7 in our textbook, which includes topics such as vector spaces, linear transformations, subspaces, inner product spaces, the Cayley-Hamilton Theorem, the Spectral Theorem, and Jordan Canonical forms.

Most importantly, this course seeks to:

- Improve your ability to think logically, analytically, and abstractly
- Improve your ability to read, communicate (both orally and in writing), and understand the language of mathematics
- Increase your appreciation of the role and importance of linear algebra within mathematics

**Assignments:** Mathematics is not a spectator sport: in order to fully understand the material you need to take time to practice with the ideas, think about the concepts, and work through numerous examples and problems. Working problems on your own is the best way to learn and improve your mathematical skills. I encourage you to discuss the homework with me and your classmates, **work together on your assignments**, and check your solutions, but I expect that you hand in your own work: meaning that you write up your solutions independently and in your own handwriting. Please note that representing another person’s work, including the work of an author of a solutions manual, as your own constitutes a breach of academic integrity.

Homework will be assigned and collected on Tuesdays and Thursdays. Assignments will be announced in class and posted on my course website. **Homework is due at the beginning of class.** Please write your assignments legibly and staple your pages. Write your name on each assignment. **Late homework, which means anytime after the lecture begins, will not be accepted** under any circumstances. Therefore, if you are late to class, or ill and unable to do the assignment, you will receive no credit for your homework. Calculators and computers may be used on assignments.

*Your lowest homework score will be dropped when computing your final grade.*

You should feel free to ask me to review your solutions and provide you with comments. If you are having difficulty with any topic, please see me for help as soon as possible.

**Presentations:** Since one of the goals of this course is to improve your ability to communicate mathematics to others, you will be responsible for presenting your solution to a homework problem at least three times during the semester. I will assign the
problems to be presented in the class prior to the presentation. Your presentation will be graded on a three-point scale:

3  An entirely correct solution.
2  A solution showing strong evidence of conceptual understanding, but perhaps containing several minor computational errors.
1  An attempt at a solution that reveals little evidence of conceptual understanding.
0  No reasonable attempt made to solve the problem.

Your presentation should be aimed at your classmates and not your professor! You should feel free to come see me during my office hours to review your solution with you prior to the date of your presentation! During your presentation, you should explain your reasoning and solution and be prepared to answer any questions that your classmates may have.

Examinations: The final examination occurs on Tuesday, December 9, 2008 from 2 - 4 pm in Pereira Hall 206. The final exam will be comprehensive. You must receive a passing grade on the final examination to guarantee that you pass this class. There will be two in-class midterm examinations during the semester in addition to the final examination. The midterms will take place on: Thursday, October 2 and Thursday, November 20. You may not use books, notes, or calculators during these examinations. I will arrange a make-up examination only in a verified extraordinary circumstance. In this case, please see me as soon as possible.

Please contact me during the first week of the semester if you have a conflict with any of these dates!

Expectations: The author of your textbook and your professor believe that you can think! Therefore, there will not be a worked example in the text or in class that resembles every homework or exam problem. You should expect to spend approximately two hours outside of class for each hour in class on this course. I expect that you attend and participate in class, take careful notes, read your textbook, review your class notes, attempt every homework problem, and that you come see me if you run into any difficulties!

Students with Disabilities: If you have a disability for which you are or may be requesting an accommodation, please contact me during the first week of the semester. In addition, you should visit the Disability Support Services Office in the Learning Resource Center located in Daum Hall, 2nd Floor.

Grading Policy: Your final course grade will be computed as follows:

Homework: 30%
Homework Presentations/Class Participation: 10%
Midterm Examinations: 35%
Final Examination: 25%
You must receive a passing grade on the final examination to guarantee that you pass this class. I guarantee at least an A- to students scoring 90% or higher, at least a B- to students scoring 80% or higher, at least a C- to students scoring 70% or higher, and at least a D to students scoring 60% or higher. I reserve the right to raise grades higher than this scale dictates, based on considerations such as homework performance, class participation, and improvement over the quarter.

I will not discuss grading issues via e-mail. If you have questions or concerns regarding your grade, please visit my office hours or arrange a time to meet with me.

**Academic Integrity:** Students are expected to abide by the Loyola Marymount University Honor Code as stated in the current Undergraduate Student Bulletin. Please familiarize yourself with the University’s policy regarding academic dishonesty, which can be found on pages 58 – 59 of the 2008 - 2010 Bulletin. Please note that representing another person’s work, including a classmate, the work of an author of a solutions manual, or information from a website, as your own constitutes a breach of academic integrity. If the instructor concludes that a student has violated the standards for academic integrity established by the University or for this course, then she may impose penalties as she deems appropriate to the offense (which can range from receiving no credit for the work in question to expulsion) and shall report the violation to the appropriate parties.

**Important Note:** If necessary, this syllabus and its contents are subject to revision and YOU are responsible for any changes or modifications announced in class.

**Special Request:** The use of cellular phones, MP3 players, and other electronic equipment is strictly forbidden during class. The distractions they cause disrupt class. Cell phones must be turned OFF (not left on vibrate) and ear pieces must be removed prior to entering our classroom. If your cell phone rings, if you are seen typing a text message, if you are seen pushing buttons on an iPod, cell phone, etc., you will be asked to leave the classroom immediately and will lose points from the ‘Participation’ portion of your final course grade.