Math 51 Summer 2013

This is not a complete syllabus – instead find everything at http://math51.stanford.edu

Instructor: Dr. Mihaela Ignatova

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Office: 382-V (2nd floor of Building 380)
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Lectures: daily 1:15pm – 2:05pm, 300-300

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Textbooks: Linear Algebra by Levandosky and Differential Vector Calculus by Licata

About This Class:
Math 51 is a 5-course course with an accelerated pace – the class covers geometry and algebra of vectors, systems of linear equations, matrices and linear transformations, diagonalization and eigenvectors, vector valued functions and functions of several variables, parametric curves, partial derivatives and gradients, the derivative as a matrix, chain rule in several variables, constrained and unconstrained optimization.

This course assumes a strong understanding of differential calculus of one variable. For the linear algebra portion, we will start from the beginning and build up all concepts in lectures. However, this course is packed with information and moves very quickly. Students who are somewhat unsure of their mathematics background may want to consider courses in the 40 series. Although everyone is welcome in the course, it is aimed primarily to students who took Math 41-42 (or have equivalent preparation) and will continue taking more advanced quantitative classes that require a strong linear algebra and calculus background.

On Registrar Deadlines:
Please pay careful attention to all Registrar deadlines, especially the add/drop deadline at the end of the second week of classes (Friday, July 15, 2013, at 5pm).

Math 51 Exam Information:
All exams for Math 51 are closed-book, closed-notes, with no calculators or other electronic aids permitted. The midterm counts 35% toward your final grade, and the final exam counts 50%. (Your overall exam average is the sum of all points earned on the exams, divided by the total possible points; this average counts 85% toward the final grade. No scaling or curving is applied to individual exam scores.)

If you have a course-related or competition-related schedule conflict with the midterm exam, you must contact your instructor at least a week in advance of the exam to make arrangements for an alternate (early) sitting; the same policy holds for OAE accommodations. No other schedule conflicts are accommodated for midterms, and alternate exam times are limited. The date and time of the final exam are set by the University; all students must take the exam at this time.

Midterm: Wednesday, July 24, 2013, 7pm-9pm
Final Exam: Friday, August 16, 2013, 12:15pm - 3:15pm
Math 51 Homework: Problems from the textbook and other handouts will serve two purposes in Math 51: as uncollected Recommended Problems or as graded Written Homework. Each is handled in a different way and has a different purpose.

About Recommended Problems: Each time we cover a topic, we will list the corresponding text section and some "recommended problems." Some may be similar to problems from written homework assignments and problems from prior year's exams. You should try to work these recommended problems immediately after reading the book section(s) being covered in lecture. For complete understanding of the course material, be sure that you understand both the recommended problems and the written homework problems, in addition to all examples from the readings. (Work on recommended problems will not be collected.)

About Written Homework: Completing homework assignments is an essential part of the course. Problems are designed to enforce concepts covered in lecture as well as to encourage students to explore implications of the results discussed in class. Very few students will be able to go through the entire course with our struggling on many problems, so do not be discourage if you do not immediately know how to solve a problem. In confronting difficult questions you should consider how the problem at hand connects to topics, definitions and/or theorems discussed in class. (Written homework counts 15% toward the final grade.)

When you have worked on a problem for a while and remain stuck, you are encouraged to ask for hints from your instructor or CA. Students may also discuss problems with one another, but must write solutions on their own The Honor Code apply to this and all other written aspects of the course. Be warned: watching someone else solve a problem will not make homework a good preparation for tests. Don't get caught in the trap of relying on others to get through homework assignments.

Students are expected to take care in writing their assignments. For instance,
  • assignment should be written neatly;
  • assignments should contain clear, complete solutions;
  • solutions sets which contain multiple pages should be stapled; and
  • never forget to put your name on the top of your work.

Logistics for Written Homework: Assignments must be turned in to your instructor. The deadline is 4 p.m. on Wednesdays, and no late homework will be accepted under any circumstances. To accommodate exceptional situations such as a serious illness, your lowest homework score will be dropped at the end of the quarter. Solutions will be posted on this page by the following morning. Your homework grades will be posted on CourseWork. It is the student’s responsibility to regularly check these grades for accuracy.