Syllabus of Math 120 Sections 1 and 2

Key Information

Instructor: You Qi
Tel: (203) 432-7312
Time: MWF Section 1 9:25–10:15am,
Section 2 11:35–12:25am
Office: 219B, LOM, 12 Hillhouse
E-mail: you.qi@yale.edu
Office Hour: MWF, 10:15-11:15 am

Midterm Dates : Exam 1: February 19
Exam 2: April 9.
Final Date: May 4.
Course webpage: `http://math.yale.edu/~yq64/spring2015120`.

Textbook

The text is James Stewart's Multivariable Calculus Early Transcendentals, Math 120, seventh edition, Thompson. Note: earlier editions of this text differ in some sections and most exercises.

Prerequisites

After MATH 115, or with permission of instructor. May not be taken after MATH 121.

Content

In Math 120 we study the vector geometry of 3 dimensions, scalar and vector functions of 1 and 2 variables, partial derivatives, directional derivatives, multiple integrals, cylindrical and spherical coordinates, parameterized curves and surfaces, gradient, divergence, curl, line and surface integrals, and the theorems of Gauss, Green, and Stokes.

Exams

Exam 1 will take place on Thursday, February 19, and Exam 2 on Thursday, April 9. Both are in the evening, 7 – 8:30pm.

The final exam is scheduled for Monday, May 4, from 9am to 12:30pm. The exams are closed book: no notes, books, calculators, or other forms of aid are allowed. We will give you double angle formulas, for integrating $\sin(2x)$ and $\cos(2x)$. We will not ask you to integrate anything as complicated as, say, $\arctan(x)$. Examples of things you should know how to integrate include sin, cos, exp, polynomials, x^5. You should also be able to use simple substitution to integrate functions such as $\sin(x)/\cos(3x)$, or $x\exp(x^2)$.

Practice exams and detailed information about each test is posted on the course webpage, and a list of review sessions will be added before each test.

Assignments

I will post the assignment every Wednesday evening on the **course website**, and it will be due the following Wednesday in class. Be sure to grab the assignment from the website, under Assignments (rather than looking at the recommended exercises on V2).

Feel free to discuss the assignments with your classmates, but you must write up and submit your own set of solutions. Make sure to show your work: do not simply write down the answers. The majority of homework points are given for correct approach and work. The homework totals vary with the number of problems, but each homework contributes the same amount to the final homework score. In other words, I will be adding homework percentages, not the total number of points. No late homework will be accepted. Lowest percentage will be dropped.

Grades

Course grades are determined from the combined total of homework scores (10%), two midterm scores (25% each), and the final exam score (40%). The total score will be translated into a letter grade using the table below. Note that we will not round the totals to the nearest integer; you must actually get to 93% or above to get an A, 92.9% will not suffice. We may lower these cutoffs to make the grading more generous (if the exams turn out to be extra difficult, for example). We do

not have a final-trumps-all policy. You grade will be calculated according to the above formula, and the final exam will not replace it.

Cutoff	Grade
$\geq 93\%$	A
$\geq 90\%$	A-
$\geq 85\%$	B+
$\geq 80\%$	B
$\geq 75\%$	B-
$\geq 72\%$	C+
$\geq 68\%$	C
$\geq 65\%$	C-
$\geq 55\%$	D
$\geq 0\%$	F

FOR HELP

Besides my office hours, you can also get help from the following resources.

- **Peer tutors.** Peer tutors are undergraduate tutors assigned specifically to Math 120. They have regular office hours, and are also available for private appointments that you can request by e-mail. Their office hours and contact info will be posted on the course website at the end of shopping period.
- **Residential college tutors.** Each college has math and science tutors who hold regular office hours to help with a series of courses, including Math 120. The schedule is at `http://yalecollege.yale.edu/content/tutoring-and-academic-support` Note: You can attend tutor office hours at any college, not just your own.
- **Coaches.** After the first exam, graduate student TAs will start running weekly small group sessions with students who could benefit from getting some additional help with the course. More information is available on the class website, under Getting help.
- **Private tutors.** Private tutors are available for students who are in danger of getting a C+ or worse in the course. You can request a tutor by getting a form from your Dean and having me sign it. Typically at least one exam score is required, but if youre struggling with the class from the start, and feel that you need help, talk to me right away; dont wait for a test to go badly.
- **Calculus tutorials.** If you are feeling a bit rusty with your single variable calculus, I would encourage you to take a look at our calculus tutorials. They contain notes and practice problems with solutions for the entire content of Math 112 and Math 115, and should be quite helpful if you need to refresh your memory on some of the topics, or if your previous course did not cover everything needed for Math 120. The tutorials live at `https://webspace.yale.edu/calctutorials` and there is a link to them from the section 00 site.

ABOUT HOMEWORK AND EXAMS

We will expect you to justify your answers to homework and exam problems. If your work is incomplete, you will lose points even if your answer is correct. A guide to writing up Math 120 solution is posted on the course website make sure to read it, so that you do not lose unnecessary credit.