

## MATH 18.02 SYLLABUS AUTUMN 2012

**Lectures** TR 1:00-2:00, F 2:00-3:00, 26-100

**Instructor** James M<sup>c</sup>Kernan, 2-274, phone 253-4391, mckernan@math.mit.edu.

**Office Hours** W 3-5, F 1-2, or by appointment, if you cannot make these times. Please see Stellar for the recitation leader's office hours. Any 18.02 student is welcome to attend the office hours of any 18.02 instructor.

**Text** **Vector calculus**, Multivariable Calculus, Edwards and Penney, 6th edition, Prentice Hall 2002. Also **18.02 Supplementary notes and exercises**, download zip file from stellar, or get a copy from Copy Tech (11-004) for around 13 dollars.

**Websites** Stellar, <http://stellar.mit.edu/S/course/18/fa12/18.02/index.html>, and <http://math.mit.edu/~mckernan/Teaching/12-13/Autumn/18.02/18.02.html>.

**Recitations** MW, please see Stellar for more details.

**Exams, Final** 9am-12, Thursday December 20th, Johnson Track.

**Midterms** H 09/27, T 10/23, T 11/13, T 12/04, 26-100 and Walker Memorial. All midterm exams are 50 minutes long, and will be held during class time. Students will be split into the two locations, 26-100 and Walker Memorial.

**Make-ups** Under certain circumstances, a make-up midterm may be taken after the date of the regular midterm. Make-ups for missed midterms are permitted only with a medical excuse or prior arrangement (at least 24 hours prior). Send email to your recitation leader to arrange to take a make-up. Make-ups for failed midterms can boost your midterm grade only up to the minimum passing grade, which will be announced; students who fail a midterm will be notified of this opportunity.

**Grading policy** The homework will count 25% towards your final grade. The midterms will count 45% and the final 30%.

**Homework** Homework is due every week on Thursdays by 12:45pm, in room 2-255. Late problem sets are **not accepted**, however the lowest problem set score will be dropped. At the top of every of each assignment should appear

- (1) Your name.
- (2) Your recitation leader's last name.
- (3) Your recitation time.
- (4) Either the text "Sources consulted: none" or a list of all sources consulted other than the main textbook, supplementary notes, and your own notes from lecture and recitation. This is *required*. (Examples of things that should be listed if used: office hours, names of study group partners, OCW archive, Wikipedia, Piazza, etc.)

You should not expect to be able to solve every single problem on your own; instead you are encouraged to discuss questions with each other or to come to office hours. If you meet with a study group, you may find it helpful to do as many problems as you can

on your own beforehand. But write-ups must be done independently. (In practice, this means that it is OK for other people to explain their solutions to you, but you must not be looking at other peoples solutions as you write your own.) Use examples in the book as a model for the level of detail expected. Write in complete sentences whenever reasonable. If you have questions about the homework, it is best to ask these in office hours.

**Problems** If you anticipate missing a homework or midterm (e.g. for a varsity sport) then please contact your recitation leader (the sooner the better). Similarly contact your recitation leader if you miss a homework or midterm due to illness. You may be required to obtain a supporting letter from Student Support Services.

**Syllabus** Calculus of several variables. Vector algebra in 3-space, determinants, matrices. Vector-valued functions of one variable, space motion. Scalar functions of several variables: partial differentiation, gradient, optimization techniques. Double integrals and line integrals in the plane; exact differentials and conservative fields; Green's theorem and applications, triple integrals, line and surface integrals in space, Divergence theorem, Stokes' theorem; applications.