STUDENT SYLLABUS   **MAC 2313–05**   **Fall 2003**

MEETS MW 12:20-1:10, TR 12:30-1:45 in 102 Love
WEB PAGE http://www.math.fsu.edu/∼bellenot/class/f03/cal3

INSTRUCTOR The Good Doctor Bellenot
    OFFICE 002-B Love ('B' for Bellenot in the Basement)
    OFFICE HOURS MW 11:15am -12:00 noon T 2:00-3:00pm
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COURSE LEVEL
  1. PREREQUISITES. You must have passed MAC 2312 (Calculus II) with a grade of C- or better. If you have transfered to FSU, and have satisfactorily completed at least eight hours of calculus courses equivalent to MAC 2311 and MAC 2312, then you have also satisfied the prerequisites.
  2. REDUCED CREDIT. This is tricky, but it does not effect many people. Suppose you have transfered in nine (or more) credit hours of calculus courses. At FSU you can only get credit for a maximum of 13 credit hours of calculus. If you have 9 credits already, you can only get 4 more credits. So you should take this class for reduced credit, namely 4 hours. You still do all the work and attend all the classes, but you pay less. See the advisor in 222 Love to arrange for reduced credit.
  3. ELIGIBILITY. You might think we have covered everything. But no, there is more. You can't get credit for MAC 2313 again if you have already passed the course with a C- or better. In fact, if you have credit for a course like 'Partial Differential Equations' with a C- or better, which has Calculus 3 as a prerequisite, you can't get credit for MAC 2313 afterwards either.

STUDENT RESPONSIBILITIES
  e. Read your FSU email at least once a night (see FSU Computer Account below).
  r. Before each class the student should have read the section being covered that day.
  a. Attend all classes (see attendance below).
 hw. After each class the student should do as much of the homework (as given on our web page) as needed to master the section.
  q. If you don't have the section mastered, then have questions that pinpoint your problems ready to ask in class.
  o. If you still don't have the section mastered, come visit the good doctor in his office. Either show up for office hours or make an appointment by email.
  p. Some projects require group work, and some projects require the student to think about how formulate the problem. Both require that you start the problems early.
  t. Be ready for the tests and final, bring a TI-89 and your FSU ID to each test. Know how to "nail" the easy problems.
  c. Check your work while doing a problem. (This is not about looking up the answer in the back of the book, but rather making sure your have answered the question that was asked and cross checking intermediate results that can be easily checked and are important for the final answer.)

Classroom Rules
  0. COURTESY. As a courtesy to others, be prompt and don't generate unnecessary noises or distractions.
  1. CELL PHONES. Please turn off all cell phones during class. Cell phones are not allowed at tests.
  2. HATS. Please take off hats during class.
  3. FOOD. No food or drinks are allowed in the classroom.

COURSE CONTENT, GOALS and OBJECTIVES
  1. TEXT. <u>Calculus</u> (Third Edition), by Hughes–Hallett, Gleason, McCallum, et al.
  2. COURSE CONTENT. Chapters 12–20 of the text. **FAIR WARNING**: the material will be covered in an order different from the order in the textbook. We will start with supplements that cover the some of the material in Chapter 13, and sections 1 and 2 in Chapter 17.

3. COURSE GOALS. The purpose of this course is to introduce students to more advanced topics in the calculus and some of their applications. The material in this course should be mastered before the student proceeds to courses for which it is a prerequisite.

4. COURSE OBJECTIVES. Here is a partial list of abilities that a student will have mastered after passing this course.
   a. Recognizing quanities as scalar or vector and being able to work problems with both.
   b. Basic analytic geometry of lines, planes and spheres in three space, both with vector equations and with scalar equations.
   c. Visualizing functions of two variables as surfaces and level curves and the level surfaces of functions of three variables. Relating increasing and decreasing with gradient fields and partial derivatives.
   d. Optimization problems for functions of several variables. Solving two non-linear equations in two unknowns.
   e. The properties of curves, surfaces and vector fields. For example, velocity, arc length, surface area, curl and divergence.
   f. Double and triple integrals and in particular their relationship with geometric regions of integration in both rectangular and other coordinate systems.
   g. Line and surface integrals and applying the fundemental theorems of calculus for these objects.

TECHNOLOGY AND OTHER RESOURCES

- FSU COMPUTER ACCOUNT. Every student must get a (free) garnet FSU computer account so as to receive class email. These are obtained from the web page below.

$$https://register.acns.fsu.edu/CARS/new\_accounts.html$$

  You are required to check your garnet email frequently (at least nightly). (Students who prefer to read their e-mail elsewhere can have their garnet e-mail forwarded by filling out the web page at the URL below.)
$$https://register.acns.fsu.edu/CARS/forward.html$$

- CALCULATORS. Students are required to have the TI-89 programmable graphing calculator. Each test will have a problem which requires having this particular calculator. See the course web page for some web pricing and other TI-89 references.

- MAPLE. The computer program Maple will be needed to do some of the assignments for this class. Most, if not all, of the computers in the public FSU computer labs and classrooms have Maple installed. There is also web version of Maple available to students at FSU.

- WEB PAGE. All assignments, projects, and references are available from the class web site. The web page is updated for every class. Its URL is

$$http://www.math.fsu.edu/\sim bellenot/class/f03/cal3/$$

- GRADEBOOK. A copy of your grades and your attendance record will be available online from the following URL
$$http://www.math.fsu.edu/\sim bellenot/class/f03/cal3/gb/$$

- MATH HELP CENTER. The Math Help Center is located in 110 MCH (Milton Carothers Hall) next door to the Love Building. Only limited help is available for Calculus 3. The hours of operation are available on-line at this URL

$$http://web.math.fsu.edu/Academics/Undergraduate/HelpCenter.html$$

Details

1. ATTENDANCE. Attendance is required, more than 4 unexcused absences will result in a reduction of your final letter grade. Our daily routine will start with a problem that you will do individually. Papers will be exchanged and graded in class. Please be ready for the daily problem at the beginning of class by having a blank 8 1/2 by 11 sheet of paper with your name and date clearly written on it. These are not really quizzes, but we will call them quizzes.

2. GRADING. There will be three unit tests and a cumulative final exam. The instructor will give short quizzes and graded short projects. In addition, there will be one large two week group project. Numerical course grades will be determined by the larger of Avg1 and Avg2 where Avg1 = $(3T+Q+2P+2F)/8$ and Avg2 = $(3T+Q+2P+6F)/12$, T = unit test average, Q = quiz average, P = project assignments and large project(s) grade, and F = final exam grade. Basically this means that the final can count as much as 50% of your grade, or as little as 25%, which ever gives you the higher average. Letter grades will be determined from numerical grades as follows. A: 90 and above; B: 80 and above; C: 70 and above; D: 60 and above; F: below 60. Plus/minus letter grades may be assigned to high/low numerical grades. A grade of I will not be given to avoid a grade of F or to give additional study time. Failure to process a course drop will result in a course grade of F.

3. EXAM POLICY. No makeup tests or quizzes will normally be given. Late or unstapled projects will not normally be accepted. A missed test, may be excused if the student presents sufficient verifiable evidence of acceptable extenuating circumstances. If a test absence is excused, then the final exam will be used for the missing test grade. An unexcused absence from a unit test will be penalized. An unexcused missed quiz or project assignment, will result in a grade of zero. The lowest quiz score and the lowest small project score will be dropped. Absences from tests, quizzes and missed projects due to family social events will not be excused. Acceptable medical excuses must state explicitly that the student should be excused from class. Students must take the final examination at the scheduled time. Students must bring FSU ID cards to all tests. Cell phones and hats are not allowed at tests.

4. BIG PROJECT. You will work on the project in groups of 1–4 students. This project will be a substantial assignment, giving you a chance to earn part of your grade in an environment which simulates the so-called "real world" better than does an in-class exam. It will also give your instructor a chance to base part of your grade on your best work, produced in a setting where time should not be a factor (assuming you start on your project as soon as it is assigned). The results of your work on your project will be presented in a report (one report per group). Each member will also submit a "group evaluation" giving their impression of the relative contribution of each member to the group's effort. These evaluations are due with the project. It is not guaranteed that each member of the group will receive the same grade. The reports will be graded not only on their mathematical content but also on the quality of the presentation: clarity, neatness, and proper grammar are also important. Both reports and group evaluations must be typed. The project will be assigned on (Tentatively) Thursday, 23 Oct and due on Thursday, 6 Nov

5. OTHER PROJECTS. There will be other smaller projects most weeks. Some will involve maple. Some will be group projects like the big project.

6. HOMEWORK. There will be daily homework assignments. You are encouraged to form homework study groups. The **KEY TO SUCCESS** in Calculus is for the student to do as many homework problems as necessary to be able to quickly apply the material. For some students this means doing more than just the assigned homework.

7. TEST DATES. Tests are 75 minutes. The day before the test is a review day. Old tests (but without answers) for previous Calculus 3 classes are on the web (see our web page.)
   1. TEST#1 Tuesday 16 Sep (4th Week)
   2. TEST#2 Tuesday 21 Oct? (16-23 Oct Scheduled to avoid the Phy 2048C and 2049C midterms dates but about the same time.)
   3. TEST#3 Thursday 20 Nov (Next to Last Thursday)
   4. **FINAL EXAM is Tuesday 9 Dec 10:00 pm - 12:00 noon**

8. HONOR CODE. The Academic Honor System of The Florida State University is based on the premise that each student has the responsibility 1) to uphold the highest standards of academic integrity in the student's own work, 2) to refuse to tolerate violations of academic integrity in the University community, and 3) to foster a high sense of integrity and social responsibility on the part of the University community. Please note that violations of this Academic Honor System will not be tolerated in this class. Specifically, incidents of plagiarism of any type or referring to any unauthorized material during examinations will be rigorously pursued by this instructor. Before submitting any work for this class, please read the "Academic Honor System" in its entirety (as found in the <u>FSU General Bulletin</u> and in the <u>FSU Student Handbook</u> and ask the instructor to clarify any of its expectations that you do no understand.

9. AMERICAN DISABILITIES ACT. Students with disabilities needing academic accommodations should
    1) register with and provide documentation to the Student Disability Resource Center (SDRC);
    2) bring a letter to the instructor from SDRC indicating you need academic accommodations. This should be done within the first week of class.