MAC 2312 **Calculus II Syllabus** **Fall 2007**

Lectures: MWF 9:05–9:55 AM in 101 LOV

Instructor: Prof. Philip Bowers

Teaching Assistant (TA): Graduate Student Ahmet Tatar

Course Homepage: http://www.math.fsu.edu/~bowers/MAC2312/index07.html

Eligibility: You must have completed MAC 2311, or its equivalent, with a grade of $C-$ or higher. Calculus II is significantly more challenging than Calculus I. If you received below a B in Calculus I, please be prepared to work much harder in Calculus II to earn a passing grade. If you work no harder in Calculus II than you did in Calculus I, your grade likely will drop by at least one whole letter.

Objectives: The purpose of this course is to introduce students to more advanced topics in calculus. We begin with a study of integration techniques, arguably the second most difficult material in our sequence of three calculus courses at FSU. We then study sequences and series, certainly the most difficult of the topics in the calculus sequence. After a short study of several topics, including numerical and improper integration, arclength and surface area, and exponential growth and decay, we end with a study of parametric equations and calculus using polar coordinates. The material in this course should be mastered before the student proceeds to courses for which this is a prerequisite.

Attendance: I strongly advise you to attend class regularly. A student absent from class bears the full responsibility for all subject matter and procedural information discussed in class.

Courtesy: Generally, I expect you to get to class on time and not to leave class until I have dismissed it. If you must leave class early, please let me know before class begins.

Text: *Calculus, Early Transcendentals*, Fifth Edition, by James Stewart.

Content: The course is divided into four units.

Unit 1: Techniques of Integration. Sections 7.1 – 7.5;
Unit 2: Sequences and Series. Sections 11.1 – 11.12, sans 11.11;
Unit 3: Topics. Sections 7.7, 7.8, 8.1, 8.2, 9.4;
Unit 4: Parametric Equations and Polar Coordinates. Sections 10.1 – 10.6.

Homework: A complete list of homework assignments appears on a separate page. When I have covered a section in lecture, you should be working on the homework assigned for that section, and have it completed by the time I have started lecturing on the next topic. You may see me in my office or my TA in his office for individual help. It is your responsibility to complete the assigned homework in a timely manner. The homework problems are chosen to hone the skills that the tests are designed to measure. Ninety percent of the tests material will be drawn directly from assigned homework problems, appropriately altered in their nonessentials, and presented to you as a test of your skills.

Offices: Prof. Bowers–118 LOV
TA Tatar–406E MCH

Office Hours: Prof. Bowers: MWF 10–11 AM, T 4–5 PM, any time I am in my office, and by appointment. In addition, each Tuesday during a test week I will hold an *Office Day*, during which I shall be in my office from 9 AM until 6 PM, except for a lunch break. You are welcome to drop by during Office Day at anytime to receive individual help.

TA Tatar: W 11 AM–12 Noon and R 1–3 PM.

Recitations and No Fault Quizzes: There is a mandatory 75 minute recitation class every Thursday morning in 215 HTL (Section 01 at 8 AM, Section 02 at 9:30 AM, and Section 03 at 11:00 AM). Typically, a no fault ten minute quiz will be given at the beginning of recitation, which will be graded immediately by yourself as the TA works out the quiz problems on the board. The remainder of the time will be used by the TA to work out homework problems on the board and to answer questions. All tests will be given in the recitation period, except for Test 4, which will be given in 101 LOV. The no fault quizzes will help you gauge whether or not you are learning the material at the level of performance I expect you to demonstrate on the graded tests.

Tests and Grading: There are five tests. Test 0 covers differentiation skills that you should have mastered in Calculus I and counts for 10% of your grade. The remaining tests cover the four units with Test 1 counting 25% of your grade, Test 2 counting 30%, Test 3 counting 15%, and Test 4 counting 20%. For Unit 2, a pretest will be given and your recorded Test 2 grade will be either the average of your grades for PreTest 2 and Test 2, or the grade on Test 2 alone, whichever is higher. The five 100-point test grades will give a weighted average according to the formula

$$\text{NumericalGrade} = 0.10 \times \text{Test}\,0 + 0.25 \times \text{Test}\,1 + 0.30 \times \text{Test}\,2 + 0.15 \times \text{Test}\,3 + 0.20 \times \text{Test}\,4.$$

Your numerical grade will be converted to a letter grade according to the usual cutoffs ($90 - 100 = A$, $80 - 89.99 = B$, ..., possibly with plus and minuses).

The test dates are:

Test 0: 06 September in 215 HTL.
Test 1: 27 September in 215 HTL.
PreTest 2: 18 October in 215 HTL.
Test 2: 01 November in 215 HTL.
Test 3: 15 November in 215 HTL.
Test 4: 13 December from **3:00-5:00 PM** in **101 LOV**.

Make-up Tests: If you have an excused absence for one of Tests 0 through 3, **approved by Prof. Bowers before the Thursday on which the test is given**, arrangements will be made to give you a test on an alternate day. The result of an unexcused absence for a test is a **0** entered for that test grade. During the final exam period, the first hour, from 3:00 to 4:00 PM, is reserved for Test 4. The second hour, 4:00 to 5:00 PM, is reserved for make-up tests. You may take one make-up test covering any of Tests 0, 1, 2 or 3, and your grade on the make-up will replace the recorded grade for that test.

Schedule: A day-by-day pacing schedule has been given to you. It is posted on the course webpage. If you miss a lecture, please refer to the schedule and remain on task.

Honor Code: A copy of the University Academic Honor Code can be found in the current Student Handbook. You are bound by this in all of your academic work. It 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. You have completed many mathematics courses successfully and know that on a test you may not give or receive any help from a person or written material except as specifically designated acceptable. Out of class you are encouraged to work together on assignments.

ADA Statement: 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.

Homework for Mac 2312 Calculus II

The homework problems are from the Fifth Edition of James Stewart's *Calculus, Early Transcendentals*.

Unit 0

Section 3.5 p. 224 # 9, 11, 17, 19, 22, 25, 26, 29, 37, 39, 41
Section 3.8 p. 249 # 3, 4, 9, 12, 15, 18, 19, 24
Section 3.9 p. 254 # 36, 40, 42, 43, 47

Unit 1

Section 7.1 p. 480 # 1–35 odd, 41, 42
Section 7.2 p. 488 # 1–45 odd
Section 7.3 p. 494 # 1–29 odd, 31, 32
Section 7.4 p. 504 # 1–47 odd, 55–59
Section 7.5 p. 510 # 1–71 odd

Unit 2

Section 11.1 p. 710 # 3–39 odd
Section 11.2 p. 720 # 15–33 odd
Section 11.3 p. 729 # 3–25 odd
Section 11.4 p. 734 # 3–31 odd
Section 11.5 p. 739 # 5–19 odd, 23–29 odd
Section 11.6 p. 745 # 3–27 odd
Section 11.7 p. 748 # 1–38
Section 11.8 p. 753 # 3–27 odd; p. 787 # 42, 44; Handout
Section 11.9 p. 759 # 3–17 odd, 23
Section 11.10 p. 770 # 3–17 odd, 23–27 odd
Section 11.12 p. 783 # 13(a)(b)–21(a)(b) odd

Unit 3

Section 7.7 p. 527 # 5, 13, 19, 21, 22
Section 7.8 p. 537 # 5–39 odd, 49–53 odd
Section 8.1 p. 552 # 1–13 odd
Section 8.2 p. 558 # 1–11 odd, 25, 26
Section 9.4 p. 620 # 1, 3, 8, 9–15 odd, 19–22

Unit 4

Section 10.1 p. 656 # 1–21 odd, 24
Section 10.2 p. 666 # 1–19 odd, 25–43 odd
Section 10.3 p. 677 # 1–45 odd
Section 10.4 p. 683 # 1–13 odd, 17–35 odd, 45, 47
Section 10.5 p. 690 # 1–7 odd, 11–15 odd, 19–48 odd
Section 10.6 p. 695 # 1–15 odd, 21–23