Calculus I *Fall 2006*
MA113

Textbook: The textbook for this course will be *Calculus*, 5th edition, by James Stewart.

Material to be covered: In Calculus I, we will learn about derivatives, integrals and the fundamental theorems of calculus. We begin by introducing the notion of a limit. Limits are essential to defining derivatives and integrals. By the end of the semester students should know precise definitions of the derivative and the integral and the fundamental theorem of calculus which gives the relation between the derivative and the integral. We will illustrate the methods and ideas of calculus by studying several physical and geometric problems. We will study the interpretation of the derivative as velocity or slope of a tangent line, the trajectory of a body falling under the influence of gravity, the interpretation of the integral as area or distance traveled and the use of the integral in computing volumes of familiar solids such as a sphere or a cone.
We will cover most of Chapters 1 to 6 of Stewart. Please see the course calendar for a detailed listing of sections.

Homework: The bulk of homework for this course will be completed using the web-based homework system at `http://www.mathclass.org`. Students who pre-registered over the summer will have an account at this website. Your user name for this account is the e-mail address that you have on file with the University. The password will be the last 6 digits of your social security number followed by an exclamation point, *e.g.* 654321!. If you have difficulty logging in, you may visit Mathskeller (CB 065) M–F from 9am–4pm. In addition, your instructor or another student with an account at `mathclass.org` may look up the e-mail address using the builtin directory.
Students who registered near the beginning of the semester may not have an account. These students will need to go to `www.mathclass.org`, and create an account. After logging on to `www.mathclass.org`, click on the triangle next to `Tools`, then `Web homework` and request to add the class titled `MA113-nnn` where `nnn` is your section number. Be sure that you are a registered student and not just browsing. Information on using `mathclass.org` is available in the guides which are available from links on the left-hand side of `www.mathclass.org`.
Students who choose to drop MA 113 must use Web UK. Dropping your registration at `www.mathclass.org` will have no effect on your official registration. Students who switch sections of MA 113 during add-drop should also add their new section at `mathclass.org`. Students who are switching sections should not create a new account. When a student adds a section of MA 113 to their account at `mathclass.org`, the record of homework will be transferred to the new section.
Web homework problems will be discussed in recitation on Tuesday and Thursday and submitted by 12 midnight on the following Monday. Students should attempt homework as soon as the corresponding material is discussed in lecture. Students who wait till Monday to begin an assignment will likely not complete the work on time.
Each student will have an individual version of the homework. Students should plan to

print out their assignment, complete the problems in a notebook, submit their answers and then rework or seek assistance on the problems that were marked incorrect. Your teaching assistants will be instructed to ask to see your work before providing assistance. In addition, there is a common version of each homework set. The problems from the common version will be discussed in recitation.

If you feel you have worked a problem correctly and WHS marks it incorrect, please contact Russell Brown (by e-mail to `russell.brown@uky.edu` or by submitting the form at `http://www.math.uky.edu/~rbrown/whs/report.html`).

There are several web homework assignments that will not be counted towards your grade. The review assignments R1-R4 are study guides for each exam. All students should complete these review assignments. The warmup assignments W1-W4 are collections of routine problems that are provided for students who would like additional practice on basic skills.

The course calendar lists optional homework assignments from the textbook. These are intended for students who feel they need more practice to master a topic.

In addition to the web homework, we will have seven worksheets that will be graded by humans. These worksheets will be graded for mathematical correctness, and for clarity of exposition. Students who wish to receive full credit should write in complete sentences and use mathematical notation correctly.

The homework grade in the course is computed as follows. The web homework grade is the minimum of 95 and your average score on web homework. You may find this average at `mathclass.org` by clicking homework scores after logging in. Add the web homework grade and the grades on the seven worksheets to obtain the total homework points earned. The homework grade is the percentage of points that are earned out of the 165 possible points.

Late homework: No late submissions of web homework will be accepted. If an emergency or illness takes you away from school, please meet with your lecturer to discuss your situation and ask to be excused from an assignment, if appropriate. If you have a scheduled absence (travel or authorized university absence) you must still submit the homework by the deadline.

Written assignments are due at the beginning of lecture. If an emergency or unexpected absence prevents you from turning in the assignment, please see your lecturer to request permission to turn in the assignment late. If you have a scheduled absence (travel or authorized university absence) you should arrange to turn in your paper before leaving school. Unexcused and late submissions will be penalized 10% if the paper is turned in on the due date and an additional 20% for each day that it is late.

Exams: There will be three exams and a final. These exams are scheduled in the evening as indicated in the course calendar. Please be sure that you have these dates free. The final exam will be cumulative, but with an emphasis on the material covered since the third exam.

MA193: In addition, to the 4 hours of credit for MA113, the department offers one additional hour of credit as MA193 on a pass/fail basis. You will pass MA193 if you have

0, 1 or 2 unexcused absences and you pass MA113. If you have three or more unexcused absences or you fail MA 113, you will fail MA193. Your section number for MA193 should equal your section number for MA113. If you drop or change sections of MA113, please make sure to also drop or change sections of MA193.

Grading: Your grade will be based on the activities in the table below.

3 exams	300
Final exam	100
Homework	100
TOTAL	500

Students need an average of 90% (450 points) for an A, 80% (400 points) for a B, 70% (350 points) for a C and 60% (300 points) for a D. Grades may be curved by lowering these grade lines.

Calculators: Students may use a graphing calculator on exams and homework. Students may not use a machine with symbolic manipulation capabilities on exams. Thus, no TI-89's, TI-92's, no HP-48's or laptop computers may be used on exams. Please see the lecturer if you have any questions as to whether a particular machine may be used on a test.

Absences: You should attend class. If you must miss a recitation and are registered for MA193, you must explain your absence to your teaching assistant. Otherwise, your absence will be marked as unexcused and this may lead to failing MA193.

Web page: A web page for this course is at `http://www.math.uky.edu/~rbrown/courses/ma113.f.06` Any handouts will be available at this address.