

*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>. Most students should already have an account at this site. Your user id and password are both equal to your student id number. Students who registered late or changed sections will not have an account and should go to this site, create an account and request registration in 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 this web-site is available by clicking the link titled "For students" and then following the link for the tutorial or by following the Help link which appears on many WHS pages.

Students must drop MA 113 through Web UK. Dropping your registration in the web-based homework system will have no effect on your official registration. Students who change sections will need to speak with their lecturer. Students cannot change sections in the web-based homework system. The administrator of the system can transfer students, if necessary.

Homework 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 on a separate piece of paper or 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 let contact Russell Brown (by e-mail to [russell.brown@uky.edu](mailto:russell.brown@uky.edu) or by submitting the form

at <http://www.math.uky.edu/~rbrown/whs/report.html>).

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

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 in WHS by selecting Homework Scores on the main page. 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 last test.

*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.s.06> Any handouts will be available at this address.

*Assistance:* Teaching assistants and tutors are available in Mathskeller to help with Calculus. This resource center is located in the basement of the Classroom Building. Mathskeller will be open Monday–Friday 10–5. In addition to tutoring, Mathskeller is a convenient place to print out homework assignments and to obtain assistance in registering with the online homework system. Tutoring organized by Mathskeller is available Sunday–Thursday, 6–10 pm in room B-25 of Young Library Visit <http://www.mathskeller.com> to find changes to this schedule around holidays and common exams.