

MA113
Fall 2005

Information for instructors
Course coordinator: Russell Brown

Textbook: The textbook for this course will be *Calculus, 5th edition*, by James Stewart, ISBN 0-534-39339-X

Syllabus: A course calendar with suggested problems is available. You may duplicate the version I have provided to Elizabeth. Each instructor should also provide an individual syllabus giving name, contact information and office hours and additional information about grading policy. The course calendar and a sample syllabus are available at <http://www.ms.uky.edu/~rbrown/courses/ma113cc.f.05>. Some policies to keep in mind.

1. If grades are to be curved, the syllabus should describe the instructor's policy for setting the curve. This is apparently in response to instructors who used "negative curves".
2. Describe carefully what is meant by an excused absence, if attendance will be used in grading. Please see the ombud's memo for the full story.
3. We are to provide undergraduates with a midterm evaluation of their course performance. More details to follow.
4. No examinations are to be given during the last week of classes. The intent of this policy seems to be prevent the early administration of final examinations. Instructors may give quizzes or other regular homework assignments during the last week of classes.

Math resource center: The mathematics resource center or Mathskeller is located in room 65 of the basement of the White Hall Classroom Building. All teaching assistants for MA113 are asked to schedule at least one of their office hours in this facility (and a total of three office hours). When the schedule is fixed, it will be circulated to all students in MA113 and 114.

Pretest: Some (but not all) of our problems in calculus are due to the poor preparation of our students. A pretest is available to give in the first lecture or recitation. Students have been advised that they must have a 26 on the mathematics portion of the ACT or they may have taken a placement exam administered by the department.

Exams: There will be three exams and a final. These exams are scheduled in the evening at the times indicated in the common exam schedule. We do not have common exams, only common exam times. Rooms for exams will be assigned after classes begin.

Please emphasize to your students that they should try to clear their schedule for these exams. Students are allowed to register for a course that meets at the same time as a common exam. If an exam and course conflict, then the instructor is

required to give an alternate exam. See the printed schedule book for details or visit <http://www.uky.edu/Registrar/commhr.htm>

Instructors in evening classes generally give their exams during a regularly scheduled class meeting.

Homework: Paper graders are generally not available for MA 113. Teaching assistants do not have time to grade daily homework. I suggest that teaching assistants be asked to grade one brief assignment per week. Faculty generally have teaching assistants grade weekly quizzes over homework or collect homework and grade a small portion of the assignment. In addition, teaching assistants help with the grading of exams.

WHS: I am working on developing a collection of problems on WHS, the web-based homework delivery system used by MA 123 and other courses. I will be using these problems in my lecture. They are available for any student who would like additional practice. I would like all sections to use these problems in coming semesters.

MA193: In addition, to the 4 hours of credit for MA113, the department offers one additional hour of credit on a pass/fail basis as MA193. Instructors may set their own grading policy for MA193. I suggest that students be passed in MA193 if they pass MA 113 and if they have no more than two unexcused absences. Thus, a student with three or more unexcused absences will fail. Below are a few common questions about MA193.

Must a student take MA193? No, unless the student is in MathExcel. MathExcel students must take MA193.

Which section of MA193 should a student register in? Students should register in same section number for both MA193 and MA113. If a student drops or changes sections of MA113, they should also drop or change sections of MA193. Instructors and teaching assistants should check their MA193 rolls near the end of the semester. If there is a name that is unfamiliar, please try to determine if the student is registered in another section of MA113.

Can MA193 be repeated? Yes, though there is little benefit to this.

Can MA193 be taken without MA113? Yes, though it is not recommended. If the suggested grading is used, such students will fail MA193.

Suggested grading for MA113: Students need 90% for an A, 80% for a B, 70% for a C and 60% for a D.

3 midterm exams	300
Final exam	100
Homework, quizzes, etc.	150
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TOTAL	550

Problems: Students should try to resolve problems with their instructor and/or teaching assistant. If this is not unsuccessful, the departmental ombudperson or the

university ombudperson. If you have complaints about the syllabus, please let me know.

TA supervision: The Director of Graduate Studies may ask for assistance from faculty in training and supervising the teaching assistants working with you. This may include watching a recitation, meeting regularly with teaching assistants, and writing a brief summary of the performance of each teaching assistant at the end of the semester.

Calculators: Most students are familiar with graphing calculators such as the TI-82. These calculators allow students to graph functions, solve equations, evaluate derivatives and definite integrals numerically. Elizabeth has TI-82 calculators that each instructor may check out. I suggest that students be allowed to use a graphing calculator on exams. Test questions should be written so that it is clear whether a numerical answer from the calculator is acceptable or if students must carry out the computation by hand. In addition, some students will have machines that can carry out symbolic computations. I suggest that students not be allowed to use such machines on exams. Examples of such machines include the TI-89, TI-92, the HP48 and, of course, laptop computers.

Computer labs: The math department has a computer lab in CB113 that instructors may use. See <http://www.ms.uky.edu/~inslab> for more information. This lab have Maple and Matlab available. The university also maintains numerous computer labs where students may use Maple and other mathematical software. These labs contain classrooms that may be reserved.

Grades: A recent section of MA 113 had the following grade distribution: A 14%, B 20%, C 23%, D 11%, E 16%, W 17%.

Russell Brown
August 15, 2005

Date	Section, topic	Homework assignment
24-Aug	Ch. 1 Review of functions	Review, p. 56 #1,2,3,5,6,8-12,16-19
26-Aug	2.1 Tangent and velocity problems	§2.1 #1,2,3,5,6,8,9
29-Aug	2.2 Limit of a function	§2.2, #2,4,5,6,9,12,13,15,25,28
31-Aug	2.3 Calculating limits using the limit laws	§2.3 #1,2,11,13,15,17,20,22,28,39,40,49
2-Sep	2.4 The precise definition of a limit (lightly)	§2.4 #1,2,3,4,5,6,9,10
5-Sep	Labor day, academic holiday	
7-Sep	2.5 Continuity	§2.5, #1,3,4,5,6,7,9,11,17,21,37
9-Sep	2.6 Tangents, velocities and rates of change	§2.6 #1,2,3,5,13,15,17,18,23
12-Sep	3.1 Derivatives	§3.1 #3,4,6,7,9,12,15,16,19,22,25,26
14-Sep	3.2 The derivative as a function	§3.2 #1,2,4,7,10,12,17,25,36,39,41
	Last day to drop	
16-Sep	3.3 Differentiation formula	§3.3 #5,10,16,18,21,25,28,33,40,44,53,57,58,62
19-Sep	Review	
20-Sep	First exam, room to be announced.	
21-Sep	3.4 Rates of change	§3.4 #1,4,6,9,15,18,19,20,22,28
23-Sep	3.5 Derivatives of trigonometric functions	§3.5 #3,6,9,12,18,29,30,35,36,43
26-Sep	3.6 The chain rule	§3.6 #1,5,6,7,10,15,16,19,25,28,45,46,55,56
28-Sep	3.7 Implicit differentiation	§3.7 #3,4,7,10,14,15,26,29,35,39
30-Sep	3.8 Higher derivatives	§3.8 #1-3,11,18,25,26,39,41,44,49,50,53
3-Oct	3.9 Related rates	§3.9 #1,2,4,6-8,10-12,14-17,20-22
5-Oct	3.10 Linear approximation	§3.10 #1,3,7,8,13,15,27,31,32,37
7-Oct	Fall break, academic holiday	
10-Oct	4.1 Maximum and minimum values	§4.1 #1,2,3,4,5,9,11,17,18,23,47,48,52
12-Oct	4.2 The mean value theorem	§4.2 #1,3,5-8,15-19,22
14-Oct	Review	
17-Oct	Review	
18-Oct	Second exam, room to be announced.	
19-Oct	4.3 Derivatives and the shape of a graph	§4.3 #1,2,5,6,7-9,11-17,22-26,29,31,33
21-Oct	4.4 Limits at infinity	§4.4 #1-4,9,11,13,15,17,19,21,23,35,37,39,43,58
	Last day to withdraw	
24-Oct	4.5 Summary of curve sketching	§4.5 #3,12,13,17,23,27,31
26-Oct	4.5 continued	§4.6 #20,21,26,27
28-Oct	4.7 Optimization problems	§4.7 #2,3,6,7,10,16,19,22,29,32,35,51,52.
31-Oct	4.7 Optimization problems	
2-Nov	4.9 Newton's method	§1,4,5,6,11,27,31,34,35
4-Nov	4.10 Anti-derivatives	§4.10 #1,3,5,7,21,23,25,31,36,37,39,40,53,55,68,71
7-Nov	5.1 Areas and distances	§5.1 #1,3,4,5,11,12,20,22
9-Nov	5.2 The definite integral	§5.2 #1,7,9,17,19,25,29,30,33-36,39,47-49,55,57
11-Nov	Review	
14-Nov	Review	
	Gottfried Wilhelm Leibniz died, 1716	
15-Nov	Third exam, room to be announced.	
16-Nov	5.3 The fundamental theorem of calculus	§5.3 #1,7-11,13,19,21,23,25,27,31,33,51,
18-Nov	5.4 Indefinite integrals	§5.4 #1,3,17,19,21,23,25,31,33,43,46,48
21-Nov	5.5 Substitution	§5.5 #1,3,9,11,13,15,17,19,21,27,37,39,45,49,57,58
23-Nov	5.5 Substitution, continued	
24-Nov	Thanksgiving day, academic holiday.	
25-Nov	Academic holiday.	
28-Nov	6.1 Areas between curves	§6.1 #1,2,5,7,11,13,21,22,24,45
30-Nov	6.2 Volume	§6.2 #1,3,12,13,14,47,48,49,53
2-Dec	6.3 Volume by cylindrical shells	§6.3 #1,9,11,13,15,17,43,45.
5-Dec	Review	
7-Dec	Review	
9-Dec	Review	
13-Dec	Final exam, room to be announced.	