

Syllabus for MA 113 - Calculus I, Spring 2008

Web site

The home page for this course is at

<http://www.ms.uky.edu/~uwenagel/CALC-I-s08/113-home>.

It is designed to help you and to provide information. In particular, handouts and solutions to exams or written assignments will be posted at this web site.

Schedule

- Lectures: MWF
- Recitations: TR
- **Exams:** There are three uniform midterm exams and one final exam. The final exam will be cumulative though with an emphasis on the material covered since the third exam.
 - Exam 1: Room TBA, Feb. 5, 7:30 - 9:30 pm
 - Exam 2: Room TBA, Mar. 4, 7:30 - 9:30 pm
 - Exam 3: Room TBA, Apr. 8, 7:30 - 9:30 pm
 - Final exam: Room TBA, May 1, 8:30 - 10:30 pm

Textbook

Calculus (5th edition) by James Stewart, ISBN 0-534-39339-X

Material and goals

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's book. Please see the course calendar for a detailed listing of sections.

Exposure to the precision needed in Calculus will foster critical thinking and rational reasoning. In order to help you learn to articulate mathematical ideas, there will be six written assignments. Your solutions to these assignments are expected to be carefully drafted documents that are written up in complete sentences. You should lay out and explain all the arguments you used to arrive at the solution.

Grading

You can earn up to 500 points in the course based on the following activities:

3 exams	300 (100 points each)
Final exam	100
Homework and attendance	100
Total	500

The 100 points for homework and attendance are computed based on the following components:

Web homework	95 points
Written assignments	60 points (10 points each)
Attendance of the lectures	45 points
Total divided by 2 (and rounded up)	100 points

Your course grade will be based on the number of points you earn according to the following scheme:

Total earned course points (out of 500)	450-500	400-449	350-399	300-349	0-299
Final course grade	A	B	C	D	E

Homework and Quizzes

There are three types of homework, only the first two count towards the grade.

- (1) The bulk of the homework will be completed using the well tested web-based homework system that grades your solutions and records your scores. You find it at <http://www.mathclass.org> (see below for administrative details on using this website).

We recommend to approach the web-based homework assignments via the following rules.

- Start to work on an assignment as soon as the corresponding material is discussed in class.
- Print out copies of your personal and of the common assignments (it is free in the Mathskeller, the student staff will show you how to do so) and put them in a notebook.
- Get together with classmates to work on the problems via the printouts.
- Write down the solutions in your notebook and only thereafter enter your solutions on the webpage. Only correct solutions to your **personal version** of the homework assignment give you credit! Notice that for each web-based homework problem **you may resubmit your answer as often as you wish before the due date!** Only your final (and hopefully correct answer) will be recorded for your homework grade. You may find your score at <http://www.mathclass.org> by clicking homework scores on the main page.
- Bring the notebook with you when going to office hours.
- Bring copies of the common problems to recitations. They will be discussed there.
- You are encouraged to discuss homework problems and the course material with each other. However, when it comes time for you to write up or enter the solutions, we expect you to do this completely on your own. It would be the best for your understanding if you put aside your notes from the discussions with your classmates and wrote up the solutions entirely from scratch.

If you feel you have worked a problem correctly and WHS marks it incorrect, please contact your teaching assistant or lecturer, for example, by e-mail.

- (2) In addition to the web homework, there will be six written assignments, worksheets, that will be graded by humans. Your solutions will be graded for mathematical correctness, and for clarity of exposition. Students who wish to receive full credit should write in complete sentences laying out the arguments carefully.
- (3) There are various optional homework problems that do not count towards your grade: web-based Warmup and Review assignments as well as assignments from the textbook. All these problems are listed in the course calendar.

The optional assignment A0 is intended to introduce you to the syntax to enter mathematical expressions in the web homework system. The review assignments AR, BR, CR, and DR are study guides for each exam. All students are strongly advised to complete these review assignments.

Quizzes will be given regularly during recitations (see the course calendar). The quizzes will not be graded. They should help you to cope with a test situation where you have to work the given problems with closed books and a limited amount of time.

Attendance

You are expected and strongly advised to attend all lectures and recitations.

Lecturers will take attendance in all lectures beginning January 11. Your score is based on the percentage of lectures you attend. You will receive full credit (45 points, see above) if you have at most 2 unexcused absences.

MA 193

In addition to the 4 hours of credit for MA 113, the department offers one additional hour of credit as MA 193 on a pass/fail basis. You will pass MA 193 if you have at most 2 unexcused absences during MA 113 recitations and you pass MA 113. If you fail MA 113 or have 3 or more unexcused absences you will fail MA 193.

Your section number for MA 193 equals your section number for MA 113. If you drop or change sections of MA 113, please make sure to also drop or change sections of MA 193.

Getting help

If you are having difficulty with any aspect of the course, you should seek help immediately.

If you are having trouble with a homework problem, you can send an e-mail through the online homework system to your teaching assistant. Try to provide as much information as possible in your help request. For example, you should at least describe how you attempted the problem and at least guess where you might be going wrong.

If you need more help than what can be provided by the online help, meet with your instructor or teaching assistant. They will be happy to help.

You can also seek help in the **Mathskeller** that is located in room CB 065 in the basement of the classroom building. Many instructors and teaching assistants from the Department of Mathematics will hold office hours in the Mathskeller. In addition, limited drop-in tutoring is available. You can seek help from any of the instructors or teaching assistants - not just your own. The Mathskeller is open from 9 am to 5 pm Monday through Friday (except academic holidays) during the semester. Additional information is available at www.mathskeller.org.

Furthermore, you can seek help in **The Study** located on the 3rd floor of the Commons, South Campus. Free math tutoring is available Su-Th 5-8 pm. Just come by The Study on the 3rd floor of the Commons. Academic Enhancement also provides drop-in peer tutoring by experienced undergraduate students who have successfully navigated the courses for which they tutor. A regular schedule of all tutoring is available on The Study's website at www.uky.edu/ugs/study. You can also call 257-1356.

Using the web homework system

Students enrolled in MA 113 will have an account created for them. **Please do not create an account unless asked to do so by your instructor.** If you create an account, you will not be able to add your class to this account.

There are three methods to login to your account:

- (1) *Active directory logins:* The preferred method for logins to `mathclass.org` is with the UK Active Directory user name and password. This is also the user name and password that are used to access other systems including `myuk.uky.edu` and `exchange.uky.edu`. Thus, if your user name is `skova01`, you will enter `ad\skova01` as the user name and then the password for your Active Directory account. Note that `mathclass.org` will require you to include the prefix `ad\` while other sites on campus may not. Students who are in the Medical Center domain should use the prefix `mc\`.
- (2) *Student identification number and mathclass.org password:* Students may also log in to their account at `mathclass.org` using their eight digit student identification number as a user name and a password that is local to `mathclass.org`. The initial password will be `u$654321` where `654321` are the last six digits of your student identification number. The student identification cards have a nine digit number that always begins with a 9. The student identification number that we use are the eight digits which appear after the “9.” Most student identification numbers will begin with a 1.
- (3) You may also use the e-mail address for your account as user name. To find this address, visit the link `Don't know which User Name or e-mail to use?`. This link will also allow you to look up your Active Directory user name.

Warning: You may have a different password for each login method. However, both methods give you access to the same account.

Many more details on using your account at `mathclass.org` can be found at

<http://www.math.uky.edu/~rbrown/whs/mathclass.pdf>.

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 web homework by the deadline.

Written assignments are due at the beginning of the 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 the paper before leaving school. Unexcused and late submissions will be penalized 10% if the paper is turned in late on the due date and an additional 20% for each day that it is late.

Calculators

Students may use a graphing calculator on exams and homework. The use of machines with symbolic manipulation capabilities is not allowed during examinations. Thus, no TI-89's, TI-92's, no HP-48's or laptop computers may be used on exams. Please talk to your lecturer if you have any questions as to whether a particular machine may be used on a test. We may clear the memory of calculators before or during an examination.

Academic Honesty

Students are encouraged to work together to understand a problem and to develop a solution. However, the solution you submit for credit must be your own work. In particular, you should write your written solutions independently. Copying on exams and usage of books or notes during examinations is not allowed. Cheating or plagiarism is a serious offense, and it will not be tolerated.