

## Syllabus for MA 113 – Calculus I, Fall 2012

### Course Homepage:

The home page for this course is at

<http://www.msc.uky.edu/droyster/ma113>

It is designed to help you and to provide information for the course. This syllabus, the course calendar, all handouts and solutions to exams and written assignments will be posted on this web site.



### Class Schedule:

- Lectures: MWF, time and place according to your section (also see web page)
- Recitations: Time and place according to your section (also see web page)
- **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 rooms will be announced later.

Exam 1: Tuesday, September 18, 5:00 – 7:00 pm

Exam 2: Tuesday, October 16, 5:00 – 7:00 pm

Exam 3: Tuesday, November 13, 5:00 – 7:00 pm

Final exam: Wednesday, December 12, 8:30 - 10:30 pm

For alternate exam procedures, see the section on Policies.



### Textbook:

*Calculus* (2nd edition), by Jon Rogawski, ISBN 978-1-4641-3302-2 (paperback published for UK), 978-1-4292-0838-3 (hardback)

### Recitation Worksheets:

These worksheets are required for the course. They can be downloaded from the **Recitation Worksheets** link on the course home page

<http://www.ms.uky.edu/~ma113>.



### MA 193:

In addition to the 4 hours of credit for MA 113, the department offers one additional hour of credit for MA 193 on a pass/fail basis.

### Please note: If you fail MA 113 then you automatically fail MA193.

You will pass MA 193 if you pass MA113 and participate in all but at most two recitation sessions. You are allowed no more than two (2) unexcused absences. Any unexcused absence is non-participation. You are responsible for bringing the recitation worksheets to recitation. Failure to bring the worksheets may be considered as non- participation in the session.

Your section number for MA 193 must be the same as your section number for MA 113. If you drop or change sections of MA 113, make sure to also drop or change sections of MA 193.

**You are responsible for take care of this change of sections. If you do not change sections of MA 193 to match your section of MA 113, you risk receiving a failing grade for MA 193.**

**Goals:**

In Calculus I, we learn about derivatives, integrals and the fundamental theorems of calculus. We begin this journey by introducing the idea of a limit. Limits are essential to defining derivatives and integrals. By the end of the semester you should know precise definitions of continuity, derivatives, and integrals and understand the fundamental theorem of calculus which relates the latter two. We will illustrate the methods and ideas of calculus by applying them to solve physical and geometric problems.

We will cover most of Chapters 1 to 5 of Rogawski's book. Please see the course calendar for a detailed listing of sections.

Precision is needed in Calculus. This precision can foster critical thinking and rational reasoning skills. In order to help you learn to formulate and communicate 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 your solution. It is strongly recommended that you prepare your documents in a word processor, such as *Microsoft Word*®, *OpenOffice*, *LibreOffice*, *Pages*, *L<sup>A</sup>T<sub>E</sub>X*, or the like and then export your document to a PDF file to submit.

**Grading**

It is possible to 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
<b>Total</b>	<b>500</b>

Each exam will be graded by teams of professors and teaching assistants. These grading teams will assign a numerical score from zero (0) to one hundred (100) to each paper.

**Mid-term Grades:** Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

**Unless your instructor's class syllabus has an alternate allocation** the 100 points for homework and attendance are computed based on the following:

Web homework	100 points
Written assignments	60 points (10 points each)
<u>Attendance of the lectures</u>	<u>40 points</u>
<b>Total divided by 2</b>	<b>100 points</b>

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
<b>Final course grade</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>

**Homework and Quizzes:**

There are three types of homework, details are described below; only the first two count towards the grade:

1. web-based homework,
2. 6 written assignments,
3. optional homework.

#### 1. **Web-based Homework:**

The bulk of the homework will be completed using the **web-based homework** system **WeBWorK**, that grades your solutions and records your scores. You find it at <https://courses.webwork.maa.org/webwork2/uky-ma113/> (see below for administrative details on using this website). Each homework set comes as a personal version. When entering answers to the personal version the system will tell you whether your answer is correct or not and will, in the case there are multiple components of the answer, indicate the first part of the answer that is incorrect. **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 up to fifteen (15) times before midnight of the due date!**

The homework is graded by problem. You do not have to resubmit the entire set each time you work a problem.

You can, at any time, find your current score WeBWorK by clicking Grades in the Main Menu on the left of most pages.

There is a button, Preview Answers, on each problem page which will allow you to see your answer before you submit it. There is also a button, Check Answers, for which you can check your answers. You will find a button, Email instructor, that causes an email to be sent to your TA and your instructor which mainly serves to tell them that you have a question.

Keep in mind then it is not cheating to give or receive help on web homework.

- a) Start to work on an assignment as soon as the corresponding material is discussed in class.
- b) Print out copies of your personal version (it is free in the Mathskeller, the student staff will show you how to do so) and put them in a notebook.
- c) 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. Check your answers by entering them into the system, and, if necessary, rework the problem.
- d) Work on the problems of your personal version and remember: only correct solutions to your personal version will earn you credit.
- e) Bring the notebook with you when you go to office hours.
- f) 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, you are expected 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.
- g) If necessary, you may take your version of the homework set with you to recitation and seek help.
- h) If you feel you have worked a problem correctly and WeBWorK marks it incorrect, please contact your teaching assistant or professor by e-mail.

#### 2. **Written Assignments:**

These assignments are intended to help you learn to communicate mathematics and to present clear, well-written solutions to problems. Your solutions will be graded for mathematical correctness and for clarity of exposition. Students who wish to receive full credit should write in complete, grammatically correct sentences. You should give clear reasoning and present the steps of your solution in logical order. It is strongly recommended that you prepare your documents in a word processor, such as *Microsoft Word*®, *OpenOffice*, *LibreOffice*, *Pages*,  $\text{L}^{\text{A}}\text{T}^{\text{E}}\text{X}$ , or the like and then export your document to a PDF file to submit.

### 3. Optional homework:

There are optional homework problems that do not count towards your grade, specifically the homework assignments from the textbook, listed in the course calendar.

**Quizzes** will be given regularly during recitations (see the course calendar). **Unless your instructor's class syllabus has language to the contrary** the quizzes will not be collected and graded. Your instructor may, however, elect to collect and grade the quizzes and have them count as part of the 100 non-exam course points. The quizzes are intended to 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.



### Late Homework:

No late submissions of web homework will be accepted. If an emergency or illness takes you away from school, please discuss your situation with your professor 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. Please understand that the computer is a harsh taskmaster. When it says it is midnight, it is midnight.

Written assignments are due at the lecture. Your professor will inform you how they will be collected. If an emergency or unexpected absence prevents you from turning in the assignment, see your professor 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.



### Attendance:

You are expected and strongly advised to attend all lectures and recitations. **Unless your instructor's syllabus treats it differently** the following is how attendance will be counted toward your grade.

Instructors will take attendance beginning August 29. Your attendance score is based on the percentage of lectures you attend. You will receive full credit (40 points, see above) if you have at most 2 unexcused absences.

**Recall (see above) that participation in recitation is required for a passing grade for MA 193;** it is strongly recommended to everybody. Beyond unexcused absence, excessive tardiness to or disruptive behavior in a recitation session will be treated as non-participation in the session. Recitations are the place where you have a chance to actively engage, work problems under guidance,

seek assistance, and communicate with your peers and the instructor.

**Excused Absences:** Students need to notify the professor of absences prior to class when possible. **Senate Rule 5.2.4.2** defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

**Verification of Absences:** Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.



### **Calculators and Laptop Computers:**

Students may use a graphing calculator on exams and homework. The use of machines with symbolic manipulation capabilities is not allowed during examinations. You may not use any machine (carbon-based life form or silicon-based) that has symbolic manipulation capabilities of any sort on any exam. This precludes the use of TI-89, TI-Nspire CAS, HP 48, TI 92, Voyage 200, Casio Classpad or laptop computer. Also, you may not use your cell phone, iPhone, or Blackberry on any exam – even if you forget your regular calculator. If it runs Windows, UNIX, Linux, Ubuntu, MacOS, PalmOS, or any derivatives or associates thereof, you cannot use it on the 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. **Except when explicitly permitted by your instructor**, computers (including laptops, notebooks, iPads, etc.) may not be used during lectures.



### **Using the web homework system WeBWork:**

Please refer to the document *Introduction to WeBWork for Students* for full instructions. In order to access WeBWork do the following steps (Students who registered near the beginning of the semester should wait 24 hours after they registered for MA 113):

- Use a web browser Internet Explorer 8.0, Firefox, Chrome, Safari or other browser.
- Go to <https://courses.webwork.maa.org/webwork2/uky-ma113/>
- Log in using your campus active directory account login (LinkBlue) id in ALL CAPS. Your initial password is your UKID #.
- Follow the instructions in the *Introduction to WeBWork* to reset your password.

**Study Advice and Getting Help:**

Math is not a spectator sport. It is essentially impossible to passively learn mathematics. It must be actively learned. You have to work the homework problems to get the practice you need to understand the concepts. Remember when you first learned your favorite video game. You tried something, it didn't work, you learned from it and you tried again. The important thing is that you tried. You will not learn the material in this course by just listening to the lectures, and thinking to yourself – "Yes, I understand that". You must work the problems and go through the difficulties yourself before you will begin to learn. The instructor's task is that of an assistant to help you learn as much of the material as you desire.

Form good study skills from the start! Come to class. Read the text prior to the lecture where it will be covered. Yes, it is not a novel, but you can see what the author is trying to connect and see where you do not understand something so that you can listen more carefully in lecture. Take notes and **do the homework**. Find classmates with whom to study. Do not fall behind. It is very difficult to catch up in a math class after falling behind. **Use old exams of MA 113 to take a practice test by yourself in an exam-like situation. Compare your solutions with those provided by the answer key.** If you are having trouble, then seek help without delay.

If you are having trouble with a homework problem, you can use the feedback system in WeBWork. Try to provide as much information as possible in your request. The system shows your instructor the problem on which you are working.

If you need more help than what can be provided by the online help, you should take one or more of the following steps.

- Talk to your instructors before or after class or send them an email, if necessary. Let them know what problems you are having, if any. They will be happy to help!
- Go to the office hours of your instructors.
- You can also seek help in the **Mathskeller** that is located in room CB 063 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](http://www.mathskeller.org).
- Furthermore, you can seek help in **The Study** located on the 3rd floor of the Commons, South Campus. Academic Enhancement 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 [www.uky.edu/ugs/study](http://www.uky.edu/ugs/study). You can also call 257-1356.

You can find more detailed suggestions of how to study for the course on the handout "Some Suggestions on How to Study Mathematics", which is at the link **Study Advice and Help** on the left side of the course home page.



**Accommodations due to disability:** If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must



provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.



**Policies:**

1. Attend lectures and recitations regularly. Be on time and remain until dismissed. Do not leave in the middle of class. Instructors have the right to deduct attendance points for coming late or leaving early.

If you cannot come to lecture or recitation and would like to request an excused absence let the instructor know about it next time in class (see also the section on attendance).

2. Unless otherwise instructed by your professor, classes are cell phone-free zones! Cell phones may not be used during class. In particular, texting, "tweeting", *etc.* are forbidden. Unless specifically permitted by your instructor laptops must be off and out of sight for the entire class period (see also the section on calculators and laptop computers). Instructors have the right to deduct attendance points for using cell phones or laptops during class. The same applies to reading newspapers or other activities unrelated to the course.
3. In order to be fair to all students, dates for exams and homework assignments are firm. It is very important to take each exam on schedule. Missed work may be made up only due to illness with medical documentation or for other unusual (documented) circumstances (see also the section on late homework). If you have a university excused absence or a university-scheduled class conflict with uniform examinations please contact your lecturer as soon as possible, **but at least 10 days before the exam**, so that an alternate exam can be arranged for you. No alternate exam will be given more than 8 days after the common exam.
4. *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 solutions to the written assignments independently. Copying on exams and usage of books, notes, or communication devices during examinations is not allowed. Cheating or plagiarism is a serious offense, and it will not be tolerated. Students are responsible for knowing the University policy on cheating.
5. To earn top grade on exam problems and written assignments it is not enough to have the correct answer, you must also show the correct reasoning.
6. Classes do meet as usual on the days after a midterm exam as well as on Monday and Tuesday of Thanksgiving week. Attendance rules apply as usual.