

MA 114: Calculus II

<http://www.ms.uky.edu/~ma114>

Fall 2017

Course Description: A second course in Calculus. Applications of the integral, techniques of integration, convergence of sequence and series, Taylor series, differential equations, parametric equations and polar coordinates. Students may not receive credit both for MA 114 and for MA 138.

Learning Outcomes: In Calculus II, we will learn more about integrals and their computation, sequences and series, parametric equations and polar coordinates. We will have an introduction to the topic of differential equations and a brief introduction to the applications of differential equations. By the end of the semester you should know precise definitions of sequence, series, convergence, a solution to a differential equation and know how to use parametric equations and polar coordinates. You should be able to illustrate the methods and ideas of calculus by applying them to solve several physical and geometric problems.

Prerequisites: A grade of C or better in MA 113, MA 137 or MA 132. A grade of 4 or 5 on the AP Calculus AB exam or a grade of 3, 4, or 5 on the AP Calculus BC exam.

Information on MA 194: In addition to the 4 hours of credit for MA 114, the department offers one additional hour of credit as MA 194 on a pass/fail basis.

You will pass MA 194 if you have at most 2 unexcused absences during MA 114 recitations and you pass MA 114. If you fail MA 114 you will automatically fail MA 194. If you pass MA114 but have 3 or more unexcused absences in recitations you will fail MA194.

You are responsible for bringing the recitation worksheets to recitation. Failure to bring the worksheets may be considered as an unexcused absence in the session.

Your section number for MA 194 has to be the same as your section number for MA 114. If you drop or change sections of MA 114, please make sure to also drop or change sections of MA 194. It is your responsibility to take care of this if you change sections; otherwise you risk a failing grade for MA 194 because you are not on the proper class roll.

Textbook: *Calculus* (8th edition), by James Stewart. A custom paperback version published for UK is available from the bookstores. Students may choose a single-variable version that will be used for MA 113 and MA 114 (ISBN 978-1-337-005640-

3), a full version that will be used for MA 113, MA 114, and MA 213 (ISBN 978-1-337-03059-5), or an electronic version with all chapters (ISBN 978-1-285-85826-5). Students may also use the standard hardback version (ISBN 978-1-285-74155-0). These are bundled with electronic access to the textbook.

eBook access: You purchased access to the eBook when you purchased your textbook. Instructions for accessing the eBook are available in the Student Quick Start guide. You will need our class access key. This is **uky 8380 7149**

Required access: WebWork:

<http://webwork.as.uky.edu/webwork2/MA114F17/>

Your login information:

LOGIN: Your LinkBlue ID (in ALL CAPS)

INITIAL PASSWORD: your UKID # without the leading 9

Required software: i-clicker app from Reef Polling, graphing program (such as *desmos*, *WinPlot*, *Grapher*, *Maple*, *Mathematica* or graphing calculator), computer with an up-to-date browser for Canvas.

Class Schedule Lectures meet MWF with the time and place according to your section (see also web page). Recitations meet TR with the time and place according to your section (see also web page).

Recitation Worksheets These worksheets are required for the course. You must bring the correct worksheet to the recitation class; see the course calendar for the schedule. The worksheets can be downloaded in a single bundle or individually from the course website at <http://www.ms.uky.edu/~ma114>.

Beginning with Worksheet 2, you will be responsible for having the recitation worksheets with you for recitation classes. If you fail to do so, then it may be counted as an unexcused absence. You may print the worksheet and bring it to recitation class or your TA might provide other options.

Quizzes There are 10 quizzes given regularly throughout the semester, starting in the second week. The quizzes are given in recitation classes. Each quiz consists of one or two problems and takes up to 15 minutes. The problems will be similar to exam problems and will help you to prepare for the exams. The graded quiz will be returned in the next recitation class. The grade counts toward your MA 114 grade.

Grades: You will be able to obtain a maximum of 500 points in this class, divided as follows:

Three 2-hour exams @ 100 points each	300 points
Final exam @ 100 points	100 points
Homework, Class attendance, Class participation, recitation attendance	100 points
Total	500 points

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

<i>WeBWorK</i>	160 points
Recitation Attendance:	50 points
Attendance in Lecture:	50 points
Class quizzes:	40 points
Total divided by 3:	100 points

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

Total Points	450–500	400–449	350–399	300–349	0–299
Final Grade	A	B	C	D	E

Mid-term Grades: Mid-term grades will be posted on myUK by the deadline established in the Academic Calendar

(<http://www.uky.edu/Registrar/AcademicCalendar.htm>).

i-Clicker Polling: The lecture portion of your grade is based on active participation in lecture (the Mon-Wed-Fri meetings). You will participate in class using your phone, laptop, or other device with an internet connection and browser. You will need to create a iClicker Student account and purchase a subscription. A 180-day subscription costs \$14.99, and can be purchased directly through iClicker or by buying an access code from one of the university bookstores. If you are using iClicker Polling in another class, you only need to purchase one subscription for the term. You can access our iClicker course by using the iClicker Polling link on the Modules tab of our Canvas course page. See <https://www.iclicker.com/students> for more information about iClicker polling. If you have any difficulties with access to your account or with bringing a phone or laptop to class, please see your instructor.

Web-based Homework: The homework will be completed using the **web-based homework** system, *WeBWorK*, that grades your solutions and records your scores. 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. **Only correct solutions to your personal version of the homework assignment give you credit!**

The address for the WeBWorK system is <http://webwork.as.uky.edu/webwork2/MA114F17/>. See the document titled Intro to WeBWorK for more information including instructions on how to log in. The document How to enter Answers in WeBWorK gives more information about how to enter mathematics to answer questions in WeBWorK. Please contact your instructor or teaching assistant if you have difficulty logging in or need to change sections.

The due date for each of these homework assignments is given on WeBWorK main page as well as in the course calendar. Note that the WeBWorK sets are due at 11:59 PM on the due date. The due date on the WeBWorK server will be the most up-to-date information.

Late web homework will not be accepted. Shortly after the homework is due, solutions to many of the web homework problems will be made available through the WeBWorK server. We cannot allow some students to continue working on the problems after the solutions are available or delay providing solutions to students who have completed the homework on time. If you have an unusual situation that prevents you from completing web homework, please contact your instructor. However, in general students will be expected to complete web homework even if they are traveling.

You can, at any time, find your current percentage score on *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*, with 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. You will have the opportunity in the email to describe your difficulties in as much detail as possible.

Keep in mind that 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 the web homework and write out complete solutions of problems before attempting to submit answers. These solutions will be helpful in studying for exams and to bring to discussions with others.
- c) Form a study group and meet regularly to discuss web homework and the material covered in lectures.
- d) Make sure you understand your solution to each homework problem. Discuss your approach with members of your study group, your instructor, or peer tutors at the Mathskeller or the Study.
- e) Do not guess. If you submit an answer and are marked wrong, look through your solution for computational and conceptual errors.
- f) Near the bottom of many pages at WeBWorK, you will find a link to email your instructor. Please work to formulate clear questions in your email. We will work to answer emailed questions by the next work day. Instructors will not be able to answer questions sent the evening of a due date.

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 task-master. When it says it is midnight, it is midnight.

Exam Schedule: There will be three uniform midterm exams and one final exam. Each midterm exam is 120 minutes (2 hours) and the final exam is also 120 minutes (2 hours). **Bring your student ID card with you to the exams!**

Exam 1: Tuesday, Sep 19, 5:00–7:00 pm

Exam 2: Tuesday, Oct 17, 5:00–7:00 pm

Exam 3: Tuesday, Nov 14, 5:00–7:00 pm

Final exam: Monday, Dec 11, 8:30–10:30 pm

On the exams you may use calculators of the type TI 84, TIInspire, their equivalent or less (see below). No calculators with symbolic manipulation capabilities are allowed. Answers that are simply the output of calculator routines will generally not receive any credit on the exams. Think of the calculator you are using as an aid to thinking (at best)!!!

Old exams on MA 114 can be found online.

Before each exam there will be a supplementary review session

Calculator Policy: You may use calculators on the homework, quizzes and exams. 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 mobile phone, iPhone or Blackberry on any exam even if you forget your regular calculator. If it runs Android, BeOS, iOS, Linux, MacOS, PalmOS, Ubuntu, Unix, Windows, similar operating systems or derivatives thereof, you cannot use it on the exams. Bald answers will receive little or no credit. A bald answer is one that is simply the output of a calculator routine or a single numerical or symbolic expression that has no supporting work.

Course Policies:

- *Attendance:* 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 take off attendance points for coming late or leaving early. If you cannot come to lecture or recitation and would like to request an excused absence, inform the instructor as early as possible and provide documentation.
- *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.

- Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused) per University policy. Per Senate Rule 5.2.4.2, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.
- *Verification of Absences:* Students will 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 when feasible and in no case more than one week after the absence.
- Classes meet as usual on the days after an exam. Attendance rules apply as usual.
- Classes do meet as usual on Monday and Tuesday of Thanksgiving week. Attendance rules apply as usual.
- *Accommodations due to disability:* If you have a documented disability that requires academic accommodations, please see your instructor as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide the instructor with a Letter of Accommodation from the Disability Resource Center (Suite 407, Multidisciplinary Science Building, 725 Rose Street. Contact Susan Fogg, Disability Accommodations Consultant, mfogg00@email.uky.edu, (859) 257-2754) for coordination of campus disability services available to students with disabilities.
- *Missed work* 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. 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.

- *Academic Dishonesty:* Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the website Ombud. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited. Senate Rules 6.3.1 (see Senate Rules for the current set of Senate Rules) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission. When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone. When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

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 submit your answers for web homework. 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 academic dishonesty. The following are a few examples of academic dishonesty

1. using someone else's clicker in class or asking someone to falsely use one's clicker in class;
 2. sharing answers on an exam by texting or other messaging apps;
 3. having another student complete an assignment for you or give you answers to specific questions;
 4. using unauthorized materials or hardware on an exam;
 5. looking at another student's answers during an exam;
 6. having someone else take your exam for you;
 7. lying about having taken an exam or completed an assignment.
- Attendance: Attendance in recitation is mandatory.
 - Excused absences: Students who have university excused absences or who have university-scheduled class conflicts with uniform examinations may arrange with their instructor to take the exam at an alternate time. Generally, these make-up exams will be scheduled on the day of the regularly scheduled exam from 7:30PM to 10:00PM. The room will be announced later. Work-related conflicts are neither university excused absences nor university-scheduled absences.
 - You have a day-by-day course syllabus and homework and test schedule on the common webpage. You NOW KNOW when you have class and when you do not have class. Your instructor expects you to attend on all days that there is class.
 - Be on time to class and remain until dismissed. Do not leave in the middle of class.

Inclement Weather Policy: The University of Kentucky Severe Weather Policy can be found at http://www.uky.edu/PR/News/severe_weather.htm. The UK Infoline at (859) 257-5684, UK TV Cable Channel 16 and 19, or the UK Web site at www.uky.edu are the best places to find the most up-to-date situation.

If you feel that travel during inclement weather would be hazardous, then try to inform your instructor as soon as safely possible. You will be given the opportunity to make up any work missed or due on that day. As always, each student is responsible for any work missed and will be expected to get the notes from another student or from the web.