

Calculus II - Spring 2014
Math 2153-009
MWF 10:30am - 11:20am

Instructor: Scott Hader
Office: MSCS 409
Office Hours: Thursday 10am-11am (or by appointment)
MLSC Hours: Monday/Wednesday 2:35pm - 3:35pm
Email: scott.hader@okstate.edu

Basic Information

The textbook is the 2nd edition of Calculus: Early Transcendentals by Jon Rogawski. We will cover much of Chapter 7 (Techniques of Integration), Chapter 8 (Further Applications of the Integral and Taylor Polynomials), Chapter 10 (Infinite Series), and Chapter 11 (Parametric Equations, Polar Coordinates, and Conic Sections).

We are required to use the WebAssign system for some homework. You will need to self-enroll online at <https://www.webassign.net/login.html> using the class key okstate 2845 6324

Calculus II is a continuation of Calculus I, and so it is essential to know the material from that class well. We will also use algebra and trigonometry. Calculus II is quite a bit harder than Calculus I. It has some difficult concepts and is also more demanding in terms of computational skills. You should expect to spend a lot of time on this class. To succeed, you will have to take responsibility for your own learning. It is essential that you attend regularly, do not get behind or attempt to cram for exams, work hard at understanding the material and solving the problems, and seek help in a timely fashion if you cannot understand a concept or solve a problem despite your best efforts. There is too much material for me to be able to cover every detail in class, but you are responsible for learning everything in each of the sections that is discussed in class.

Grades

Your grade in this class will be based on your performance on three preliminary exams, a final exam, WebAssign and other homework, and in-class quizzes. You may also earn an attendance bonus. The weights of these categories are as follows:

EXAM 1	15%
EXAM 2	15%
EXAM 3	15%
FINAL EXAM	25%
HOMEWORK	15%
QUIZZES	15%
ATTENDANCE BONUS	UP TO 3%

The three preliminary exams will occur roughly once every four or five weeks of class. My plan is to hold them on February 13, March 13, and April 17. The final exam will be comprehensive. It will be held in our classroom (Life Sciences East 113) on Friday, May 8 from 10:00am - 11:50am. There will be twelve quizzes in class given on Fridays of non-test weeks; the quiz grade will be based on the best eight of these. The homework grade will include WebAssign homework and possibly worksheets. Attendance will be taken in most class periods, beginning on Wednesday, January 14 and ending on Wednesday, April 29. If you miss no more than three class periods during this time then you will receive a 3% attendance bonus. This will be reduced by 1% for each absence beyond the third, to a minimum of 0% for six or more absences. Students with excused absences will be counted as present.

A total score of at least 90% will ensure an A, a score of at least 80% will ensure at least a B, a score of at least 70% will ensure at least a C, and a score of at least 60% will ensure at least a D.

Calculators and Other Technology

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In order to decide whether you are using technology appropriately, you need to understand the purpose of classes like Calculus II. The very first topic we study in this class is integration, which you have already met in Calculus I, so this might provide a good illustration. Many people seem to form the impression that the point of studying integration in calculus is to learn to calculate elementary integrals. If this were correct then there would be little point in studying integration these days, since many calculators and all the computer algebra systems I mentioned above can carry out this task quickly and accurately. We still teach integration because that impression is, in fact, completely incorrect. The point rather is to learn to understand integration, which is an amazingly flexible and powerful tool for solving problems in engineering, mathematics, and science. Many of the integrals that you will run into in practice are not elementary and cannot be evaluated in any simpler way, but if you have developed a good understanding of integration then you will still be able to use them effectively. In order to develop that understanding, you need to work with integrals and allow your mind to form the relevant concepts through experience and reflection. During this process, you will be given elementary integrals to calculate so that you can practice with the basic techniques by which integrals are manipulated. Short circuiting this process by relying on Wolfram Alpha to do your calculations for you is like going to the gym and lifting weights with a forklift; it will indeed move the weights up and down, but it misses the point.

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Final Note

I really want you to succeed in this class. Please try to find a consistent study routine that works for you. Everyone needs help in math sometimes. If you need help, get it. The MLSC (5th floor of the library) is open 9am-9pm MTWR, 9am-5pm F, and 1pm-9pm Sun. I'm holding three office hours per week. The book provides numerous examples to study from. So you have several resources available to facilitate your learning. Please make use of them.

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