Calculus II - Spring 2016
Math 2153-007
MWF 2:30pm - 3:20pm
Room: HSCI 134

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Office: MSCS 409
Office Hours: Monday/Wednesday 12:30-1:20 (or by appointment)
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Basic Information

The textbook is the new 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 3006 7878 (Do not use the old code: 8288 7526)

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 Feburary 12, March 11, and April 15. The final exam will be comprehensive. It will be held in our classroom (HSCI 134) on Wednesday, May 4 from 2:00pm - 3:50pm. 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 13 and ending on Wednesday, April 27. 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.

I have never "curved" a class before.

Calculators and Other Technology

You will require a graphing calculator for this class, and will be permitted to use this calculator during quizzes and exams. The Mathematics Department has graphing calculators available for check out to students who are enrolled in mathematics courses. You will not be permitted to use any device that can establish a connection to a cellular or wireless network during

quizzes and exams. This means, for example, that you cannot use a cellphone calculator app or a tablet computer at these times. It is fine to use technological aids such as calculators, spreadsheets, and computer algebra systems (like Maple, Mathematica, MATLAB, Sage, and Wolfram Alpha) to assist you in solving mathematical problems, as long as you do so appropriately.

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.

What I'm Looking for When I Read Your Work

Part of my job in this class is to give you feedback to assist you in making progress. Another part is to assess your knowledge and skills so that I can eventually assign you a grade. I'm not interested in the final answers to the problems; I can already solve them for myself. What I am interested in is how you arrived at your answer and whether that process demonstrates a sound grasp of the skills that you are supposed to have and an accurate understanding of the underlying concepts. If these things are taken care of then the final answer will be correct as a matter of course. Consequently,

always show your work in sufficient detail that I can find what I'm looking for, and don't try asking for more credit because "the answer is right!" Think about what you're writing and make sure that you really mean it. Don't, for example, use the symbol '=' to mean 'and the next step is.' That symbol means several things: 'is equal to,' 'should be equal to,' 'is defined as' and you should only use it when you mean one of those things. To express things that don't fit easily into formulas, consider using words, sentences even, as well as pictures, tables, and whatever else seems likely to be effective.

Missed Work

The Mathematics Department suggests a policy on missed work, which I will be following in this class. Here it is in full:

- Every student shall be offered reasonable accommodation in the event that he or she misses a major assessment activity for a valid and documented reason.
- Appropriate documentation shall be provided by the student in a timely fashion to support his or her request for accommodation.
- Major assessment activities are those such that a zero on that activity could reasonably be foreseen to impact the student's grade substantially; this category includes, but is not limited to, exams.
- Valid reasons include official University activities, activities associated with military service, illness, family emergencies, mandatory court appearances, and any other events of comparable gravity.
- Reasonable accommodation means that the student will be given the opportunity to earn a grade on the assessment activity that is based on criteria as similar as possible to those used to grade his or her classmates. This opportunity should normally be made available in a timely fashion.

What all this means is that if you have to miss a quiz or exam for a serious reason, and you are able to provide acceptable documentation verifying that reason, then you will be allowed to make up the missed work. If you have a scheduled University activity then it is normally best to do this beforehand. I try to be flexible and fair, so if you encounter an unusual circumstance then it is worth at least asking about make-up work, although I might say no.

D2L and Email

I suggest that you add a little basic information to your D2L profile, particularly if you are interested in studying with other students in the class. I use email to contact individual students and the class as a whole. This means that you must check your OSU email regularly. If you prefer to use another email address then you should arrange to have your OSU email forwarded to that address.

Miscellaneous Information

You should read the syllabus attachment for Spring 2016, which I shall post on D2L. This is a document that outlines some of the general academic policies of the University, as well as listing important dates. You are subject to the University's policy on academic integrity. Information about this policy may be reached from the Division of Academic Affairs web page at http://academicaffairs.okstate.edu.

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 one office hour there per week (Monday at 3:30). The book provides numerous examples to study from. So you have several resources available to facilitate your learning. Please make use of them.