

Professor: David McClendon (ASC 2046, phone x2574 (231-591-2574 off campus), hours MTR 1-2 or by appointment, email: DavidMcClendon@ferris.edu)

Web: <http://mcclendonmath.com/230.html> contains the lecture notes, old exams, and other useful information.

Lectures: M 3-3:50 and TR 3:00-4:15 PM in SCI 137.

Required materials: You need two items for this course:

1. My lecture notes, which can be obtained in either of two ways:
 - as a course pack, available at the bookstore; or
 - online, at my web page (as a pdf file)

Bring the lecture notes to class every day, as they contain the examples and notes from which I will teach the course.

2. A piece of software called *Mathematica*; information about where and how to purchase this software is on the attached handout and on my web page.
You will need to bring a laptop (with *Mathematica* installed) to class on days where we have a lab assignment (these days are indicated on the attached course calendar).

I also recommend bringing some colored pens or pencils to class each day, as some of the pictures we will draw to explain concepts are much more easily understandable when drawn in color.

Prerequisite: MATH 220 with a grade of C- or better, or the equivalent. We will review the major points of Calculus 1 during the first week of class.

Course material: Techniques of integration; applications of integrals; infinite series.

Learning outcomes: After completing MATH 230, it is my hope and expectation that students will be able to:

1. compute, using appropriate analytical and technology tools, definite, indefinite and improper integrals;
2. using appropriate analytical and technology tools, solve problems which apply integrals;
3. determine whether an infinite series converges or diverges; and
4. find the Taylor series of a function and use that series to solve problems involving polynomial approximation.

Grading policy: Attendance / class participation: 4%. Lab assignments: 12%. Homework: 6%. Quiz average: 6%. Midterm Exam 1: 17%. Midterm Exam 2: 17%. Midterm Exam 3: 20%. Final exam: 18%. Grades will be curved at the end of the semester, but an average of 90% guarantees you at least an A-, an average of 80% guarantees you at least a B-, etc.

Extra credit: I offer extra credit to students who can identify typos or other errors in the lecture notes, errors in homework answers, etc. (the first student to find each goof gets the credit). The more issues you find, the more extra credit you earn.

Attendance policy: I have no formal attendance policy (other than that we'll do some things in class from time to time that may contribute a small amount to your grade). That said, **nothing** is more correlated with strong performance in my classes than attendance in lectures.

Homework: There are almost-daily homework assignments, coming from the end of each chapter in my lecture notes, listed on the course calendar. This homework is sometimes collected and sometimes not. Because of this, **homework is due at the beginning of class on the day it is due, and late homework is not collected**. Here's how the homework is graded:

- If you turn in nothing at all, you get 3/10.
- If you turn in work that appears to be copied from my answers, without necessary supporting work needed to obtain those answers, or that your supporting work is "fake", you get 0/10.
- If your work makes it seem that you made a serious attempt to solve most of the problems (especially by having appropriate work shown), you get 10/10.
- If your work makes it appear that you worked on some, but not most of the problems, you get something between 3/10 and 10/10.

While I don't deduct points for incorrect answers or errors in reasoning, I will make comments on your homework while grading to help keep you from making the same mistakes on exams.

Quizzes: There will be twelve in-class quizzes on the dates listed on the course calendar (I reserve the right to change these dates if necessary). These are ≈ 10 minutes long and cover the material that has been covered in class since the previous quiz or exam. I drop the lowest quiz grade you receive from the quizzes you take in between each exam, and after that drop the lowest quiz grade that hasn't been dropped yet. This leaves eight quiz grades which are averaged to give your quiz average. Makeup quizzes are not given under any circumstances.

Lab assignments: On certain days marked as "Lab" days, you will need to bring a laptop to class. On these days, you will be given a lab assignment which requires you to use the computer package *Mathematica*. You will have time during the class session to start the lab, but will be required to finish the lab on your own time. These labs are graded for correctness.

Midterms: There are three midterms given in class on the dates listed on the attached calendar: **February 14, March 21 and April 27**. You will not be permitted to use any study aids, calculators or computers on the exams. The midterms are not directly cumulative, but mathematics is "inherently cumulative". You may make up an exam that you miss (whether your absence is excused or not) but the makeup exams may be considerably more difficult. If you miss an exam, contact the professor; you are to make up the exam at the *earliest possible time*.

Final exam: The final exam is optional.

- If you choose not to take the final, then for your final exam grade I will enter the lowest of your three midterm exam grades.

Example: your midterm exam grades are 60, 70 and 80. If you do not take the final, I give you 60% on the final.

- If you take the final and your score is worse than any of midterm exam grades, I ignore your final exam score and for your final exam grade I will enter the lowest of your midterm exam grades.

Example: your midterm exam grades are 60, 70 and 80. You take the final and score 47%. I give you 60% on the final.

- If you take the final and your score is better than your worst midterm grade, then your final exam score counts.

Example: your midterm exam grades are 60, 70 and 80. You take the final and score 68%. I give you 68% on the final.

The final is cumulative and has the same structure as the midterms, but is twice as long.

Technology usage: Calculators are never, ever, ever permitted on any quiz or exam; questions on quizzes and exams use “easy” numbers and expressions that a calculus student should reasonably be able to compute and manipulate by hand. That said, we will learn how to use a software package called *Mathematica* which you will use on lab assignments and in some of the homework. The midterm exams include some basic questions involving *Mathematica* syntax.

Office hours / Getting help: My official in-person office hours, held in ASC 2046, are from 1-2 on Mondays, Tuesdays and Thursdays. Outside those hours, I am happy to meet with you most of the time when I am present. Feel free to ask me questions on lecture content, or to get help with any or all of the homework questions, and I can also videoconference with you through Zoom or Skype if needed. In office hours, I am able to discuss the material at a much more friendly pace and offer some alternate viewpoints that may help you understand the material better.

Also, the FSU Math Club will hold free help sessions one night per week; information on those sessions will be announced later. Additionally, the Academic Support Center (FLITE 120, x3543, asc@ferris.edu) may offer free tutoring as well. To schedule a (virtual) appointment with a tutor, you can use the online scheduling tool TutorTrac (located within the “Academic Support” link on MyFSU). Finally, I can also recommend tutors that you can hire.

Students with disabilities who require reasonable accommodations to fully participate in course activities or meet course requirements should register with the Educational Counseling and Disability Services office (x3057, ecds@ferris.edu). While ECDS will send me a letter outlining the accommodations to make for you, I would appreciate it if you could contact me immediately for assistance with any necessary classroom accommodations.

Academic dishonesty: Papers will be monitored for “magic answers”. Issues with academic dishonesty are taken very seriously, will almost always result in an F for the class, and will be referred to the Office of Student Conduct.