Syllabus
Math 253: Calculus III
FALL 2015

Instructor: Dr. Micah Warren, Fenton 318, 541-346-5618, Fenton.

**Syllabus subject to change

Time and Location: M,T,W, R. 4:00 - 4:50, 105 Fenton.

Office Hours: Tuesday 2:00 - 3:00
Thursday 10:00 - 11:00 or by appointment.

Final: 14:45 Mon, December 7 (**check for yourself before making unchangeable plans)

Standard Course description: Standard sequence for students of physical and social sciences and of mathematics. Introduction to improper integrals, infinite sequences and series, Taylor series, and differential equations. Sequence. Students cannot receive credit for more than one of MATH 253, 263. The course incorporates such concepts of Calculus as infinite sequences and series, improper integrals, and power series. Prerequisites: MATH 251 and MATH 252. A good understanding of differentiation and integration is assumed.

Textbook: The official textbook is Single Variable Calculus: Concepts and Concepts, 4th edition, by James Stewart, Brooks/Cole. You may have it already from 251/252 This is an awfully expensive textbook considering the fact that the subject has been around for centuries. If you choose to use any of the millions of cheaper used textbooks available, you will find almost exactly the same basic material, with the exception of homework problems.

Material: We will cover roughly chapter 6.8, chapter 8, and power series solutions to differential equations.

Prerequisites: C- in Math 252 or equivalent calculus coursework (as determined by me.) A 3 on the BC AP Calculus sequence should be sufficient.

Other Resources: There are tutoring and ad-hoc study groups available in the Math Library Reading Room (Fenton Hall) and also the Teaching and Learning Center (Room 68 in the Basement of PLC). Also, by now, there are a number of excellent supplementary lectures online. For example, there is a video podcast series titled "The Calculus Lifesaver" http://press.princeton.edu/video/banner/ which a number of students have found helpful. Actually, there's abundant information on the internet by now. If you choose to use other resources it's your job (and a good life skill to have) to figure out which of it is correct and applicable and to your situation.

If you are interested in extra practice problems. Do as many you can out of the textbook or any calculus textbook. You should be able to identify which sections are relevant.

Learning Outcomes: The successful student will be able to use Taylor's theorem in a reasonable effective way. Students will be able to compute finite Taylor polynomials, and will be able to determine if and where infinite series converge. The student will be able to estimate the error in the approximation.

Students will also come to a basic understanding of probability theory and its relation to integration.

Grading: There will be weekly assignments, weekly quizzes and a final. They will count toward the grade as follows.

Homework/Worksheets 20%
25 Minute Quizzes 35%
50 Minute Quizzes 20%
Final 25%.

** At this point we aren't doing Webwork for this course. If someone sets it up I may add this in the mix.

Homework: Homework will be assigned on Canvas. It will be due on Thursday at the beginning of class. The first one will be due October 1st. No late homework accepted. Lowest score will be dropped. Only a few randomly selected problems will be scored - The grader will check only a few problems. You are encouraged to work with each other on the homework. Each assignment should be written up on your own.
You can use any technology you want to check your work or to give you intuition. As a general rule, you are responsible for (that is, may be expected to know on an exam) any material that was covered by a homework problem, whether or not a similar example was covered in lecture.

**Worksheets:** There will be occasionally be worksheets on either Monday or Tuesday. These will need to be finished and turned in with the homework on Thursday.

**Quizzes:** There will be a quiz every Thursday. The material up through the Wednesday of that same week will be fair game. Most Thursdays, they will be 25 minutes long. On October 22nd and November 19th, the quizzes will be 50 minutes long. The lowest 25 minute quiz score will be dropped. Both of the longer quizzes will be worth 10% of the total grade. If you want to call the longer quizzes “midterms,” you can, but I’m hoping to diffuse some of the anxiety of midterms. No calculators/smart watches, etc are available for the quizzes/exams. Quizzes/exams can only be taken other than the scheduled time if arrangements are made in advance and a valid and admissible reason for not attending the scheduled time is provided. Obviously, no collaboration on the exams.

**Exams:** The final exam is cumulative and scheduled for Dec 7 at 2:45 pm. (**Please confirm this for yourself before booking airline tickets**) The same rules apply as for quizzes. Faculty legislation prohibits final exams from being administered early.

**Extra software:** Up to you. I won’t be requiring it for the course, but it can be helpful to check your work or gain intuition. You won’t be allowed to use it on the quizzes or exams.

**Attendance and Classroom environment:** I reserve the right to tell you to turn off any portable electronic devices. I realize that occasionally some of you will wish to pull up relevant course materials on your screens, to, you know, save trees or whatever. If I see a screen I may call you out. At this point YikYak has yet to onboard the functionality to be a useful tool in a mathematics course. You shouldn’t be texting or doing coursework for another class. If you have a paper for another course due at 5:00, that’s your own problem - you should leave the class and finish the paper. I won’t be taking attendance or prioritizing your life for you, as you are adults. However, I have loads of anecdotal evidence that attending class regularly is highly correlated with scoring well in a class.

If you have a question, please ask me. At any one point in time during the class, there may be a large portion of class who is not quite with me, for whatever reason- oftentimes a stupid question is just what other students need to refocus their attention. In fact, there is well-documented evidence that attention spans during a lecture will almost always fail every fifteen minutes. I keep this in mind and welcome opportunities to reset. If you ever want me to take a two minute break, just stop me and tell me! If it’s good for you it’s probably good for the rest of us.

**Academic dishonesty:** Any type of academic dishonesty will not be tolerated. In the event of academic dishonesty, the offense will be reported to the Office of Student Conduct and Community Standards and the student will be sanctioned up to receiving a failing grade in the course.

**Students with Disabilities:** If you are a student with a documented disability, please meet with me during the first week of class to discuss your needs. If you have not already requested a notification letter from Disability Services outlining recommended accommodations, please do so soon.
Approximate Schedule

Week 1  8.1, A.32-33
Week 2  8.2, 8.3
Week 3  8.3, 8.4
Week 4  8.4, 8.5 (exam1)
Week 5  8.5, 8.6
Week 6  8.7
Week 7  8.7, 8.8
Week 8  8.8, review (exam2)
Week 9  Powerseries and DEs ††
Week 10  6.8, review.
Week 11  Final Monday
†† Whatever happens Wednesday, November 25th won’t be essential