

Math 243 – Multivariable Calculus

Term: Fall 2015

Professor: Erich Friedman

About the course: We will meet MWF from 9:00-9:50 in room Elizabeth 311 and T at 8:30-9:45 in Elizabeth 205. This course will cover material from chapters 10 and 12–16 of the text, the 7th edition of *Multivariable Calculus* by Stewart. Topics of the course include functions of many variables, vector calculus, partial differentiation, multiple integration, parametric equations, and other coordinate systems. You will be expected to understand why calculus works, as well as how to do the calculations involved. You will need to understand and do proofs to succeed in this course. We will also be using a computer as a tool for doing calculus. The development of calculus some 300 years ago was perhaps the greatest mathematical achievement in history. I hope you enjoy discovering it with me.

About me: My e-mail address is efriedma@stetson.edu. My extension is 7552. My web page can be found at <http://www2.stetson.edu/~efriedma/>. My office is Elizabeth 214-2. My office hours this semester are MWF 10:50–12:00 and T 11:15–12:00.

I am always in my office during these times. If you cannot make my regularly scheduled hours, let me know and we can set up another time to talk. Please come by if you need help, or if you just want to chat. You will soon see that my lecture style is informal. I will be calling you by your first names (or a nickname if you prefer), so please call me Erich.

About you: You should have passed Math 141 and Math 142, or taken equivalent calculus courses elsewhere. The courses Math 211 and Math 221, while not required, will make this course easier. You should be comfortable with limits, taking derivatives, and using derivatives to find relative extrema. You should remember the basic techniques of integration, and how to apply them to find area or total change. Attendance in this class is not mandatory, but do not expect me to help you if you do not help yourself. Please be respectful of both me and your classmates. This means coming to class on time and not socializing in class.

This is a transition course between calculational math and abstract math. Most successful students spend 2–3 hours working on this class outside class per class period, up to 8–12 hours per week outside of lecture. This includes reading the book, re-reading notes, doing homework problems, working on computer projects, studying for quizzes and tests, and going to me or the math clinic for help if necessary. Even the best students sometimes struggle with this material.

About Accommodations: If you anticipate barriers related to the format or requirements of a course, you should meet with the course instructor to discuss ways to ensure full participation. If disability-related accommodations are necessary, you should register with the Academic Success Center (386-822-7127; stetson.edu/asc) and notify the course instructor of your eligibility for reasonable accommodations. You, course instructor and the Academic Success Center will plan how best to coordinate accommodations.

About the honor code: Stetson has an honor code. You are not only expected to do your own work, but to tell me if another student is not. The punishment for cheating is a zero on the quiz, test, or lab involved.

About Quantitative Reasoning: In order to assure that Stetson University is meeting its goals in providing an excellent General Education, the College has established specific General Education Learning Outcomes for all courses meeting a particular area requirement in the General Education curriculum. To monitor how well students are meeting those outcomes, instructors of those courses regularly submit work to the committees assessing each outcome. While the outcomes of these assessments are primarily for our internal use in monitoring and enhancing our curriculum, we may occasionally report the results of these assessments in published research or academic conferences. All such reports will include only aggregate data and will not include information that could identify the student or the instructor. While the use of this information within the institution is part of normal educational practice, you may choose not to allow data derived from your own work to be used for published reports or presentations by signing an “opt out” form in the Registrars office.

About your grade:

- **Homework** is assigned on the syllabus, but will not be collected, and therefore not graded. I will answer homework questions in class as time permits. These problems are designed to help you prepare for the quizzes and tests.
- **Quizzes and Tests** will be given every few weeks – the dates are listed on the syllabus. You are allowed and encouraged to use a calculator. If you are going to miss a quiz or test, please arrange something with me beforehand. If you miss a quiz or test without telling me beforehand, the penalty is 10% of your grade per day, no exceptions. You will be expected to show your work and explain your answers. Each of the 4 quizzes is worth 50 points, and each of the 3 tests is worth 100 points.
- **Mathematica Projects** will give you a chance to do longer problems outside of class with the help of a computer. Mathematica is a computer algebra system that we will be using extensively – it does algebra, calculus, graphics, and much more. I will hand out a sheet on how each section of the book can be utilized in Mathematica. We will spend our first lab day introducing you to Mathematica. You also have 24/7 access to the Elizabeth 205 lab. Call security (x7300) if you need let in to the lab.

On the Tuesdays announced on the syllabus, you can use class time to work on your projects. You may work on these projects in pairs, as long as you do not use the same partner twice. In this case, you only need to turn in one copy of the lab for the two of you. You are NOT allowed to share your work with other students.

The labs should be completely typed and stapled, and should include explanation of any computation longer than 1 Mathematica command. No error messages or incorrect computations should be shown. These 5 projects will be due on the dates announced on the syllabus, usually about a week later on the day after a quiz or test. These labs are worth 20 points each. Late labs will not be graded.

- **A Mathematica Test**, worth 50 points, will be given at the end of the term.
- **Pop Quizzes**, worth 10 points, and lasting about 10 minutes, are something I reserve the right to give if the class is not keeping up with the material.
- **The Final Exam** will be comprehensive, and is worth 200 points. There are a total of 850 points. The grading scale is the usual 90/80/70/60 scale.