Website for Section 11:

http://people.math.umass.edu/~siman/19.233

This handout contains information pertinent to Section 11 of Math 233. For **grading scale, grading scheme, syllabus, weekly lecture schedule** and other information applicable across all sections, please visit the course chair's website http://people.math.umass.edu/~gunnells/m233/m233.html

Math 233 is a **4-credit** course on multivariable calculus. After the completion of this class, you will learn the computational techniques for doing calculus in higher dimensional spaces, the geometric and physical interpretations of various concepts, and concrete applications of these tools. We will place particular emphasis on qualitative understanding of these concepts, via written homeworks that explore additional applications and examples from engineering, physics, economics and other fields.

My job as your instructor is primarily to provide a framework, with some of the particulars, to guide you in doing your learning of the concepts and methods that comprise the material of the course. Much of your learning will take place outside the classroom. It is **absolutely crucial** that you

- *read the textbook*
- *come to class for additional examples and explanations.*

Your textbook is well-writing. It is not a novel, so the reading must often be slow-going and careful. Use pencil and paper to work through the materials, study the examples, and fill in omitted steps. **Do not fall behind!**

Multivariable calculus is a beautiful topics in mathematics, and the materials have **significant applications** in engineering, economics, biology, robotics, etc. I really like the course materials; I hope you do too. Feel free to contact me if you have any questions.

Learning Objectives:

- Use vectors to express and solve geometric problems in $\mathbf{R}^2$ and $\mathbf{R}^3$
- Master the computational techniques and qualitative understanding of calculus in higher dimension, such as analyzing local max and min, finding tangent plane approximations, determining constrained optimizations, and calculating multiple integrals in variouis coordinate systems
- Learn the geometric and physical intuition behind vector fields (e.g. conservative fields, fluid flow)
- Develop the three master theorems in Vector Analysis (Greens, Stokes andd Gauss) and understand their mathematical significance and physical interpretations

Prerequisite:

Math 132

Text:

Calculus: Early Transcendentals (8th edition) by James Stewart plus **webassign**

How to contact me:

Office:	Lederle Graduate Research Tower, Room 1115G
Email:	siman@math.umass.edu
Office hours:	Mon 11:15-12:15pm; Mon 1:30-2:30pm; Wed 11:15-12:15pm; *and by appointment*

Grading Policy, Grading Scheme, Syllabus, Weekly lecture schedule:

Please visit the course chair's website http://people.math.umass.edu/~gunnells/m233/m233.html

Recitation:

- Your TA will work out additional examples and answer questions about your homework (but your TA will *not* solve homework problems for you!)
- From time to time your TA will also give short quizzes
- **10% of your total course grade stem from recitation (attendance and quizzes)**
- Except for pre-approved or medical reasons there will be **no makeup quizzes**

Homework:

- They constitute a **crucial part** of the course and contribute to 10% of your total grade
- Problem sets are assigned every class, and *unless otherwise stated*, every weekly problem set is **due Friday at 9am**
- **No late homework**
- I will drop the $\boxed{2}$ weekly problem sets (resp. the $\boxed{2}$ quizzes) with the *lowest percentage grade* (including the ones you do not hand in, for any **non-preapproved** reason) when I compute your final HW grades.

  The homework problems assigned are meant to give you an opportunity to practice and to reinforce skills and concepts taught in class. They are NOT the only such problems, and your exams may contain questions rather different from these.

WebAssign Account:

- Please follow the instruction in the 'WebAssign enrollment' section of

  http://people.math.umass.edu/~gunnells/m233/m233_syllabus.html

  The **class key** of this section is

  umass 1498 5447

  Do **not** use the key for another section!
- If you have difficult with enrollment/payment, please contact the 800-support line (the math department has no admin control over WebAssign)
- Webassign gives a 2-week payment grace period to enable you to get started on your homework, but that you will have to pay to make sure you have continued access

Other administrative details:

- The only way to add/drop a course is via SPIRE; I cannot add/drop for you.
- I do not keep a waiting list, and the Math Dept staffs will not handle these matters.
- Final exams will not be returned to the students. The Math Dept will keep them in files and will provide a student with a photocopy upon request.
- **Requests for special arrangements require ADVANCED APPROVAL and AT LEAST TWO WEEKS OF NOTICE.**

Electronic devices

- You can use laptops and tablets during class *provided that you do not disturb your classmates and my lectures* (For example: *Mute the speaker*). They are *not allowed* during exams.
- Except for emergency, *do not send text messages/emails or make/receive phone calls during lectures.*

In-class recordings of lectures and selling of notes

- You can only use the notes taken from class for your own personal use, and not share (sell) these notes via an outside vendor or entity without faculty permission. This pertains to in-class recordings as well. Usage of the notes or in-class recordings in this way without faculty permission is a violation of copyright protection.
- This does not pertain to accommodations under the Americans with Disabilities Act (ADA), although recordings or sharing of Notes for ADA accommodations should not pertain to distribution beyond the students in the class receiving the accommodations.

Make-up Exam Policy

By registering for this course you have entered into an implicit contract. One of the obligations of this contract is to participate in all course activities at their scheduled times. However, circumstances sometimes make this impossible. This note is written to give you an idea of possible circumstances, what to do in case of an unavoidable event, and how to avoid a lowering of your grade in such a case. *It will not be possible to give make-ups to accommodate travel plans.*

Multiple exams at the same time. By Official University Regulations, you should go to the Registrar's Office for a statement of conflict. The Registrar will determine which course has precedence. You should then give this form to the instructor of the course which is required to give a make-up. Two weeks notice is required; failure to complete this procedure in timely fashion may result in a ZERO on the examination.

Medical problems. You must submit a statement from a medical professional. It is your right not to disclose any details, but we must be assured that you are medically incapable of performing the activity for which you are requesting a make-up; a statement from a medical professional to this effect will suffice. If advance notice is possible and not given, your instructor may refuse your request.

Emergency absences from campus. Notify the Dean of Students (5-2684), who will then centrally verify the details and notify each of your instructors. This is more efficient than going to each instructor separately and verifying your reason.

Religious observances. State Law and University regulations require that a student be excused from academic pursuits on days of religious observances. The University provides a list of major observances, of which there are none on the days of the tests. *The regulations also require that the student notify instructors, in writing, at the beginning of the semester or the student may not be excused.* While these holidays do not seem to conflict with any course activities, they may conflict with activities that your instructor has planned for an individual section.

Other circumstances. It is impossible to anticipate all of the possible things that can occur. Contact your instructor and explain the problem. (You should provide a written statement.) Your instructor will evaluate the reasons that you have given and come to a decision.

To contact your instructor to give prior notice of an absence you may use one of the following methods:

- See your instructor at the class meeting.
- Go to your instructor's office hours.
- E-mail your instructor
- Call the department at 5-2762.
- Call the department at 5-4499 (this has voice mail for emergencies 24 hours a day).

Many of these methods require no physical effort, but if the method you select does and you are unable to do this, ask a friend. The excuse that it was impossible to find your instructor will not be accepted. Your instructor will make the final determination of the validity of the reason for missing an activity, as well as the time and location of the make-up if it is warranted. It is important for you and your instructor to be in touch with each other, since there will no make-ups for the scheduled make-ups.

Accommodation Statement. The University of Massachusetts Amherst is committed to providing an equal educational opportunity for all students. A student with a documented physical, psychological, or learning disability on file with Disability Services may be eligible for reasonable academic accommodations to help succeed in this course. If you have a documented disability that requires an accommodation, please notify the instructor within the first two weeks of the semester so that we may make appropriate arrangements.

Academic Honesty Statement. Since the integrity of the academic enterprise of any institution of higher education requires honesty in scholarship and research, academic honesty is required of all students at the University of Massachusetts Amherst. Academic dishonesty is prohibited in all programs of the University. Academic dishonesty includes but is not limited to: cheating, fabrication, plagiarism, and facilitating dishonesty. Appropriate sanctions may be imposed on any student who has committed an act of academic dishonesty. Instructors should take reasonable steps to address academic misconduct. Any person who has reason to believe that a student has committed academic dishonesty should bring such information to the attention of the appropriate course instructor as soon as possible. Instances of academic dishonesty not related to a specific course should be brought to the attention of the appropriate department Head or Chair. Since students are expected to be familiar with this policy and the commonly accepted standards of academic integrity, ignorance of such standards is not normally sufficient evidence of lack of intent.