UNIVERSITY OF MASSACHUSETTS AT AMHERST
DEPARTMENT OF MATHEMATICS AND STATISTICS
Math 233 (4 credits, GenEd R2)
Spring 2020 Syllabus and Course Policies

Overview
Math 233 is the third semester of the calculus sequence. It develops the extension of single-variable calculus to functions of several variables. In particular, it covers vectors in two- and three-dimensional space, partial derivatives, double and triple integrals, line integrals, and surface integrals. The culmination of the course is the generalization of the fundamental theorem of calculus: Green's theorem, Stokes's theorem, and the Divergence Theorem.

Textbook and WebAssign
The textbook for this course is *Calculus: Early Transcendentals* (8th Edition: Customized Hybrid Edition) by James Stewart. Please make sure you have a correct edition of the textbook. See SPIRE for ordering details. Be sure to use your UMass email address when ordering.
        You should buy a WebAssign coupon with your textbook. Help with homework is available at the Calculus Tutoring Center in LGRT 140 every Monday through Thursday from 10:00 am to 3:00 pm, starting January 29.

Exams
This course will have two evening midterm exams and a final exam.

> *Exam 1*: Tuesday Mar 3, 7:00-9:00 pm (locations TBA)
> *Exam 2*: Thursday, April 16, 7:00- 9:00 pm (locations TBA)
> *Final Exam*: Tuesday, May 5, 6:00-8:00pm in Boyden Gymnasium

You are expected to take the exams at the regularly scheduled times. Reasons for taking an exam at a different time are limited to the following:

1. Multiple evening 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 their form to the instructor of the course that is required to give a make-up. Two weeks notice is required. Failure to do this in a timely fashion may result in a zero on the examination.

> *For Exam 1 conflicts*: notify your instructor by Tuesday, Feb 18.
> *For Exam 2 conflicts*: notify your instructor by Thursday, April 2.

Please note that the use of student-prepared notes will NOT be permitted during all three exams, and there will be no formula sheets provided as part of the exam. Calculators will NOT be allowed on exams. No wi-fi devices will be permitted.

2. Medical problems

For these 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 taking the exam. A statement from a medical professional to this effect will suffice (although merely visiting a doctor is not sufficient; the doctor's note should clearly state that you were unable, for medical reasons, to take the scheduled exam). If advance notice is possible and not given your instructor may refuse your request. If you miss an exam due to illness and advance notice is not possible, your instructor must be notified within 24 hours of the missed exam.

3. Emergency absences from campus

Notify the Dean of Students Office. Someone will then verify the details and notify each of your instructors.

4. Religious observances

State law and university regulations require that a student be excused from academic pursuits on days of religious observances. The exams as scheduled do not conflict with any observances of which we are aware. Any such claim requires notice from the student, in writing, at the beginning of the semester.

5. Other circumstances

It is impossible to anticipate all of the possible things that can occur. In case of an exceptional event beyond those covered above, Contact your instructor and explain the problem. (You should be prepared to provide a written statement.) Your instructor will evaluate the reasons that you have given and come to a decision.

Grading
Letter grades for all Math 233 sections will be determined as follows:

- If your final exam score is *less than or equal* to the average of your Exam 1 and Exam 2 scores, then each of Exam 1 and 2 counts 25%, the final exam counts 30%, online homework counts 10%, and discussion section counts 10%.
- If your final exam score is *greater than* the average of your Exam 1 and Exam 2 scores, then your final exam will count 35% (instead of 30%) and each of Exams 1 and 2 will count only 22.5% (instead of 25%). The online homework and discussion section contributions will be unchanged.

After being determined by the above algorithm, the total score will be truncated *down* to the nearest integer less than or equal to the total score. (Note that truncation is not the same as rounding. For example, a score of 89.75 will be truncated to 89, not rounded to 90.) The letter grade will then be determined by the following scale:

A	90%	A-	87%	B+	83%	B	79%
B-	75%	C+	71%	C	67%	C-	63%
D+	59%	D	55%	F	below 55%		

Late arrival at an exam
If you arrive late to an exam, you will be allowed to participate in the exam. However, you will not be given extra time to complete the exam; all exams will end at their stated times.

Disability Services – Accommodations
The University of Massachusetts 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 accommodations to succeed. Students receiving accommodations for exams will take their exams through the Disability Services Center (DSC). Such students should obtain documentation from the Office of Disability Services and inform instructors at least two weeks before the exam for which the accommodation is required. Exam accommodations can be scheduled through

> Trisha Link
> Exam Proctoring Coordinator
> examsaccess@admin.umass.edu
> 413-545-0892
> 169A Whitmore

Note: Final exam accommodations differ from those for midterm exams, and have to be arranged at least two weeks before the date of the exam. The DSC will contact each registered student about making these arrangements.

Exam review sessions
There will be some review sessions run by TAs before each exam. The review sessions will go over solutions of old exams or homework questions. Your instructor will notify you of the schedule of review sessions before each exam.

WebAssign enrollment
Your instructor will give you a **class key** so that you can join the appropriate section. The class key will look like

> umass 1234 5678

A class key does not verify payment; you have to do that yourself. Also note that Webassign gives a 2 week payment grace period to enable you to go ahead and get started on the homework, but that you will have to pay to make sure you have continued access. Enroll yourself in each class section only once. Basic instructions are the following:

1. Go to www.webassign.net and click Enroll with Class Key.
2. Enter your class key and click Enroll.
3. If the correct class and section is listed, click Yes, this is my class.
4. Sign in or create your account.

If you have a Cengage Account, then

1. Type your Cengage username and password.
2. Click Sign In.
3. If prompted, either sign in to your existing WebAssign account or create a new WebAssign account.

If you have a WebAssign Account

1. Click Link Your WebAssign Account.
2. Type your WebAssign username, institution code (Umass), and password.
3. Click Continue.
4. If prompted, link your WebAssign account to a Cengage account.

If you Don't Have an Account

1. Click Create Account.
2. Type the details for your new Cengage account.
3. Read and acknowledge your acceptance of the Cengage service agreement.
4. Click Create Account. You are signed in to WebAssign with your new account and enrolled in your class

If you have trouble, please contact WebAssign's customer support. They are very responsive. More than likely your instructor will have no idea how to help.

Help
The best way to get help is to ask your instructor or TA questions in class or in office hours. You can also visit the Calculus Tutoring Center, which is in LGRT 140 and has drop-in hours starting from second week of the semester: 10am-3pm from Monday-Thursday for help with Math 131, 132, and 233. Any of the staff there should be able to help with your questions. (Please do not come to the CTC after 3, as the evening hours are devoted to Math 127 and 128.)

Another option is to visit the Learning Resource Center in 10th floor of the DuBois Library, where you may find free tutors who can help with Math 233 materials. Hours of available tutors can be found through the center.

Academic Honesty
Academic dishonesty includes but is not limited to: copying and submitting another students graded work, fabrication, plagiarism, and facilitating dishonesty. Any violation of academic honesty policies will be dealt with according to the rules contained in the booklet *Undergraduate Rights and Responsibilities*. Specifically, students caught cheating on exams or quizzes will be brought up on charges of academic dishonesty. In cases of cheating on exams, the recommendation will be that the student receives a 0 on the exam. In an extreme case, a recommendation can be made for an F in the course with the possibility of suspension or expulsion from the university.

Gen Ed Statement
MATH 233 is a four-credit General Education course that satisfies the R1 (Basic Math Skills) and R2 (Analytic Reasoning) general education requirements for graduation. The General Education Program at the University of Massachusetts Amherst offers students a unique opportunity to develop critical thinking, communication, and learning skills that will benefit them for a lifetime.

Learning Outcomes for all General Education courses
Math 233 satisfies the following General Education objectives:

- *Content:* Students will further their Calculus understanding by applying the analysis of single variable functions learned in previous calculus courses to functions of multiple variables.
- *Critical Thinking:* Students will use mathematical models to understand rates of change and cumulative change in dynamic systems, and employ computational skills to find these rates of change and cumulative change efficiently.
- *Communication:* Students will develop their writing skills by articulating their reasoning of computations through a sequence of logical steps.
- *Contextualizing:* Students will apply the theoretical concepts of calculus to real-world and theoretical problems, such as finding the position or distance traveled of an object moving in three dimensional space, or using density functions to calculate total mass, total charge, or total probability.

Learning Outcomes for the R1 and R2 Designations
Because Math 233 presupposes basic math skills, it carries the designation for the Basic Math Skills requirement (R1). In addition, the course satisfies the following objectives of the Analytic Reasoning requirement (R2):

- *Advance a student's formal or mathematical reasoning skills beyond the level of basic competence*: In learning calculus in Math 233, students will think critically and advance their mathematical literacy and analytical skills by learning to extend previous theories in calculus to higher dimensional spaces.
- *Increase the student's sophistication as a consumer of numerical information*: Students will connect the ideas of rates of change and cumulative change to various disciplines such as physics, statistics, economics, and engineering by analyzing and solving problems in both real life and theoretical applications.
- *Indicate the limits of formal, numerical, quantitative, or analytical reasoning and discuss the potential for the abuse of numerical arguments*: Students will learn methods of both estimating and computing cumulative change. Students will analyze when it is appropriate to use an estimation, and be able to gauge the accuracy of their estimations.