

Course Information:

Course Name:

- Math 241, Sections AL1 and BL1

Meet:

- Online using Zoom

Course Content:

The focus of this course is vector calculus, which concerns functions of several variables and functions whose values are vectors rather than just numbers. In this broader context, we will revisit notions like continuity, derivatives, and integrals, as well as their applications (such as finding minima and maxima). We'll explore new geometric objects such as vector fields, curves, and surfaces in 3-space and study how these relate to differentiation and integration. The highlight of the course will be theorems of Green, Stokes, and Divergence, which relate seemingly disparate types of integrals in surprising ways.

For most people, vector calculus is the most challenging term in the calculus sequence. There are a larger number of interrelated concepts than before, and solving a single problem can require thinking about one concept or object in several different ways. Because of this, conceptual understanding is more important than ever, and it is not possible to learn a shortlist of "problem templates" in lectures that will allow you to do all the HW and exam problems. Thus, while lectures and discussion sections will include many worked examples, you will still often be asked to solve an HW problem that doesn't match up with one that you've already seen. The goal here is to get a solid understanding of vector calculus so you can solve *any* such problem you encounter in mathematics, the sciences, or engineering. That requires trying to solve new problems from first principles, if only because the real world is complicated.

Overall grading:

Your course grade will be based on homework (8%), section worksheets (5%), quizzes (4%), participation on CampusWire (1%), five midterm exams (56%), and a comprehensive final exam (26%). Your lowest midterm exam will be dropped when calculating your final grade, so your lowest midterm score contributes 0% and the remaining 4 midterm scores contribute 14% each to your final grade. We will similarly drop your lowest quiz score, your lowest 4 homework scores, and lowest 4 section worksheets (which are graded for effort and participation, see below). Letter grade cut-offs and more information about homework, worksheets, CampusWire, quizzes, and exams is given below.

Participation and Commitment:

Active participation in the online learning environment is vital to your success in this 4-credit hours course. You should dedicate approximately 12-16 hours per week to working on the course itself, but actual time commitments will vary depending on your input, needs, and personal study habits. You are required to log on to the course website (Moodle) and check your email a minimum of 4 days per week, but as discussions develop, you will probably need to do so more frequently. By registering for this online course, you commit to self-motivated study, participation in online course activities, and timely submission of all assignments.

Technology:

- A computer or laptop to watch lecture videos as well as to take exams and quizzes on [Prairielearn](#) (PL).
- Good Internet connection.
- A Smart phone with Zoom installed in it. All students need to log in to zoom using their cell phones for discussion sections as well as taking exams and quizzes.
- A gooseneck phone holder (e.g see [here](#)). You can also make your own phone holding device by sticking your cell phone on a ruler with rubber bands and putting it on stack of books.
- All students need to position their phone so that the proctor can see clearly your computer screen during exams. View [How to Position Your Phone](#) during exams. During discussion, all students need to position their phone so that other students in your breakout room and the TA can see clearly you work.
- If you need assistance with acquiring needed technology, you can apply for the [Technology Loan Program](#). You can also contact the [Student Assistance Center](#) at 217-333-0050 or helpdean@illinois.edu.

Textbook:

We will cover Chapters 12–16 of

- James Stewart, *Calculus: Early Transcendentals*, **8th edition**, with Enhanced WebAssign.

Please note that this course uses the **8th edition** rather than the 7th. You will also need WebAssign access to do the homework. For complete information on purchasing options for both, see <https://go.illinois.edu/CalculusBookInfo>. If you have the standard text and WebAssign package from Math 220, 221, or 231 from last semester, then you already have everything you need for this course. Even before you purchase WebAssign, you can freely use it for the first two weeks of class and so not miss any homework assignments.

Lectures:

All lectures will be pre-recorded and links to these video-lectures will be posted on each week schedule as well as on detailed course diary page.

Worksheets:

On Tuesday and Thursday, you will usually work on worksheets with your TA on Zoom. Your worksheet will be graded for effort and participation. Missing a worksheet results in a score of zero, but the lowest 4 scores in this category will be dropped. On worksheet days, i.e., most Tuesdays and Thursdays, all student are required to log in to zoom using their smart phones and position the camera of the phone so that other group members and your TA can see your work clearly. All worksheets will be posted on detailed course diary and solutions to these worksheets will be posted after 5pm on the day of the worksheet. You can either print the worksheet, if you have access to a printer, or work on separate sheets of paper. On some Tuesdays or Thursdays your TA will run an "open discussion." Participation is not graded on these days you are strongly encouraged to attend (during these discussion sections key concepts will be reviewed, solutions to practice exam problems will be given, etc.)

Homework:

Homework will be assigned for each lecture, and will generally be due two lectures later at 5 pm (Illinois time). That is, HW assigned on Monday is due on Friday at 5pm, HW assigned on Wednesday is due on Monday at 5pm, and HW assigned on Friday will be due on Wednesday at 5pm. The homework will be completed online via [WebAssign](#). Late homework will **not** be accepted, but the lowest 4 homework scores will be dropped. The first homework is due on Friday, August 28. To access WebAssign, login here using your [netid and password](#):

- <https://www.webassign.net/uiuc/login.html>

To ensure your HW scores are correctly recorded, you should always use the above link to access WebAssign. You may need to wait 24-48 hours after registering for the course to be able to log in to WebAssign. For technical problems, contact [WebAssign student support](#); for questions or concerns about HW grades, talk to your TA.

Quizzes:

There will be five quizzes and the best four quiz scores will be counted towards your course grade. Quizzes will reflect problems similar to worksheet and homework problems. All quizzes will be taken on Prairielearn (PL). Students can take quizzes anytime during a 24 hour window of the quiz date; see the [Quizzes](#) tab for more information and quiz dates.

Exams:

There will be five (5) **evening** midterm exams and the best four midterms scores will be counted towards your course grade. All exams will be taken online using PrairieLearn (PL) and will be proctored using zoom through the [Computer-Based Testing Facility \(CBTF\)](#) online. All exams will be closed book and notes. Students are NOT allowed to use any graphing calculator but can use simple calculators, for example the one shown [here](#). If you do not have physical calculator, you can use a scientific built-in calculator in your computer/laptop. For days and times of midterm exams, please see [Exams](#) tab.

Participation on Campuswire:

Campuswire is an online forum that will be used for Questions/Answers that are related to the course material. All students need to register on Campuswire using the link <https://campuswire.com/p/GB1FA3AE7> and code **8064**. Students need to use their Illinois email address to register on Campuswire and can post questions and answers anonymously on Campuswire if they prefer. Questions posted on Campuswire forum generally will be answered within 24 hours. Students are also encouraged to answer students' questions posted on Campuswire, rather than waiting for an instructor/TA response. Students can also send direct messages to their instructor or TA on Campuswire.

Students will earn points towards their grade on Campuswire through "reputation points" by posting questions, answering questions, and getting upvotes from Instructors/TAs for good answers. Participation on Campuswire is worth 2% of the overall course grade. Students will earn 2 points for asking a question, 2 points for each like a student's question receives, 5 points for answering a question, and 10 points for an upvote of an answer. Students need to accumulate 250 reputation points before the final exam to get full credit for campuswire participation. If a student does not meet the 250 point threshold, he/she will receive partial credit according to $P/250$, where P represents points the student earned. For example, students with 125 points will get half-credit for participation, students with 200 points will get 80% credit, etc. Note that upvotes count for a lot (e.g., 5 questions with 5 upvotes each=full credit for campuswire participation). Hence, students are encouraged to give good answers (even if a question has been answered already), and also to upvote an answer if you find it helpful.

Course Policies:

Conflict exams:

If you are in a different time zone or have a conflict with one or all midterm exams, please consult the university policy on [evening midterm exams](#) and [final exam conflicts](#).

If you think your situation qualifies you to take the conflict exam, you need to submit a request on the [CBTF](#) **at least one week before the exam date**. You can submit this request by logging in to CBTF, clicking on the "make a reservation" button and then at the bottom of the page by clicking on "Request conflict exam authorization". You need to provide information regarding your conflict, and your instructor reserves final judgment as to which exam you will take.

Missed exams:

There will be no make-up exams. In case of sickness or emergency, a student can be excused from an exam so that it does not count toward student's overall average. In such situations, student must provide a letter from student's emergency dean office and instructor reserves final judgment as to whether an exam will be excused or not.

Missed HW and worksheets:

Generally, missed homework is taken care of with the policy of dropping the lowest scores. For extended absences, these are handled in same way as missed exams.

Missed Quizzes:

Our policy on dropping one lowest quiz score will take care of any single missed quiz. However, if you will miss 2 or more quizzes due to emergency, illness, or technical problems, contact your instructor with as much documentation as you can provide.

Viewing grades online:

You can always find the details of your worksheet and exam scores on the [Moodle](#). Details of your HW scores can be viewed on WebAssign, and are only periodically scores are input into the Moodle as an overall average. The default grading cut-offs are as follows.

Percentage	
[97-100]	A+
[93-97)	A
[90-93)	A-
[87-90)	B+
[83-87)	B
[80-83)	B-
[77-80)	C+
[73-77)	C
[70-73)	C-
[67-70)	D+
[63-67)	D
[59-63)	D-
[0,59)	F

Grade cutoffs will never be stricter than the above. However, there may be some small curving in the final letter grades depending on the overall difficulty of the course.

Academic Integrity:

Cheating is taken very seriously as it takes unfair advantage of the other students in the class, and is handled as per [Article 1 Part 4 of the student code](#). Penalties for cheating on exams, in particular, are very high, typically resulting in a 0 on the exam or an F in the class. Other examples of academic dishonesty include the following:

- Facilitating infractions of academic integrity
- Academic interference
- Examination by proxy
- Taking screen shots of ANY of our exams questions and sharing with others or posting on any site.

Should an incident arise in which a student is thought to have violated academic integrity, the student will be processed under the disciplinary policy set forth in the [Illinois Academic Integrity Policy](#). If you do not understand relevant definitions of academic infractions, contact your instructor for an explanation within the first week of class.

Accommodations:

To obtain disability-related academic adjustments and/or auxiliary aids, students should contact their instructor and the Disability Resources and Educational Services (DRES) as soon as possible. You can contact DRES at 1207 S. Oak Street, Champaign, (217) 333-1970, or via email at disability@illinois.edu. Students with disabilities who require reasonable accommodations should follow CBTF DRES procedures for taking the exams, see <https://cbtf.engr.illinois.edu/cbtf-online/students/dres.html> for detailed instructions.

James Scholar/Honors Learning Agreements:

These are not offered for this section of Math 241. Those interested in such credit should enroll in one of the honors sections of this course.

Course Questions:

Questions pertaining to the course should be posted on Campuswire. Posting questions on Campuswire allows everyone to benefit from the answers. If you have a question, someone else is probably wondering the same thing. Also, students should not hesitate to answer questions posted by other students if they know the answers and the instructor/TA has not yet responded. Note that you can post questions and answers anonymously on Campuswire if you prefer.

Personal and Grade-Related Questions:

Questions of a personal nature should first be sent to the instructor's email address (listed on the [Instructor Information](#) page). When sending email, include a subject that identifies the course number and nature of your question.

Emergencies:

If you have an emergency that will keep you from participating in the course, please notify your instructor by using the instructor's email address (listed on the [Instructor Information](#) page). You should also notify your program director of any emergencies.

Zoom:

Zoom is a tool that allows multiple people to join together simultaneously via a computer to text chat, audio chat, video chat, collaborate on a digital whiteboard, and even share their computer desktops with one another. This online course uses Zoom for lectures, discussion sessions, exams proctoring, and instructor's virtual office hours.