

Syllabus: Math 2374 CSE Multivariable Calculus and Vector Analysis

Course info:

Meeting time: Lecture 010: Wed/Fri 9:05–9:55am

Lecture 020: Wed/Fri 1:25–2:15pm

Textbook: *Vector Calculus* (6th ed.) by Marsden and Tromba.

It is assumed you are familiar with the material in §1.1–1.2.

§2.2, 3.4, 3.5, 6.3, 6.4, 7.7, and 8.5 will not be covered.

Course website: <https://canvas.umn.edu/courses/269519>

Description: Derivative as a linear map. Differential/integral calculus of functions of several variables, including change of coordinates using Jacobians. Line/surface integrals. Gauss', Green's, Stokes' theorems. Emphasizes use of computer technology.

Prerequisites: You must have received a grade of C- or better from Math 1372 (or equivalent).

Instructor info:

Instructor (010): Erkao Bao

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Office: VH 356

Instructor (020): Tyler Lawson

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Office: VH 323

Class format:

The available material for this class consists of the following components.

- Lectures: Wednesdays/Fridays
- Discussion sections: Tuesdays/Thursdays
- Lab sections: Thursdays
- Online readings, through <https://mathinsight.org>
- Readings, from the course textbook

COVID, face-coverings, symptoms, and vaccination:

The University of Minnesota currently requires all students, staff, and faculty to wear masks when indoors regardless of vaccination status, and strongly encourages members

of the campus community to get vaccinated. Resources are available for accessing vaccines.

Please stay at home if you experience symptoms of COVID-19 and consult with your healthcare provider about an appropriate course of action. An absence due to symptoms of COVID-19 is an excused absence, and we will work with you to find the best course of action for missed work and/or class experiences.

Please see the end of this document for additional details.

Contingency planning:

During the semester, it may become necessary to adjust the format of the class based on the need for students or the instructor to self-isolate. Under these circumstances, we will switch to using short recorded lectures for new class material; in-class will be held on Zoom to cover examples and answer questions.

These lecture videos will always be available on Canvas page for students who are unable to attend in-person.

Office hours:

Up-to-date information about office hours for all instructors and TAs are available through the course Canvas site.

Academic Integrity and Responsibility:

Students are expected to maintain academic integrity as would be expected for any course. Coursework, exams, and other assessments are an opportunity for you to demonstrate your knowledge and show what you have learned. Attempts to engage in scholastic dishonesty will result in academic consequences as would be expected for any in-person course. Such attempts include but are not limited to using disallowed resources during exams, sharing exam questions or solutions, or copying other students' work.

Information about student responsibilities, including maintaining academic integrity and scholastic honesty, can be found at <https://policy.umn.edu/education/studentresp>. For further information, consult the [Student Conduct Code](#).

Calculator policy:

Calculators are NOT allowed during quizzes, midterm exams, or the final exam. All devices (such as laptops and cell phones) must be turned off and stored out of reach during quizzes and exams.

Communication:

It is the student's responsibility to keep informed of any announcements, syllabus adjustments or other changes made during scheduled classes, discussion sections, by email, or on Canvas.

Drops/withdrawals:

For information regarding dropping the course and important deadlines, see:

<https://onestop.umn.edu/dates-and-deadlines>.

Grading and assessment:

Your performance in the course is assessed via labs, quizzes, midterm exams, and a final exam, out of a total of 300 points, broken down as follows.

Labs (60 points): Lab assignments in the form of Mathematica notebooks will be due every Tuesday throughout the semester (13 assignments), uploaded through Canvas, and will not be accepted late. Labs are worth 6 points each, and the lowest 3 lab scores will be dropped.

Quizzes (60 points): There will be weekly quizzes taken on the course Canvas site (approximately 13 quizzes). These quizzes will be based on the week's lectures. Quizzes are worth 6 points each, and lowest 3 quiz scores will be dropped.

Midterms (150 points): There will be three midterm exams throughout the semester. These will occur during class time.

In every exam, you may take one 8.5" by 11" sheet of paper of personal notes (handwritten only, double-sided is OK).

Exams are scheduled for the following dates:

Date	Points
October 6	50
November 3	50
December 1	50

In general, there will be no make-up exams. However, in complex and unusual circumstances which are beyond your control, a make-up exam may be given on a case-by-case basis. For university policies concerning make-ups, see:

<https://policy.umn.edu/education/makeupwork>.

Final Exam (130 points): The final exam is a comprehensive exam. It is scheduled during the Common Final Exam period on Thursday, December 16 from 12:00pm to 3:00pm.

Final letter grades: Your final grade will be determined by your performance out of the 300 total possible points in the course outlined above. We do not have fixed grade boundaries for this class. However, this year there will be lower bounds:

If you receive a score of ...	your grade will be at least
90%	A-
80%	B-
65%	C-
50%	D

In typical years, the distribution of the final grades is approximately 20% A, 25% B, 40% C and 15% D and F.

Note: Disputes or concerns about grades on labs, quizzes, or midterm exams must be raised within one week of the class period in which they are handed back graded.

For university grading policies, see <https://policy.umn.edu/education/gradingtranscripts>.

Homework:

Homework will be assigned every week. It is expected that students complete all of the homework problems each week, though these are not handed in to be graded.

Incompletes:

A grade of incomplete will only be assigned under extraordinary circumstances if the student has completed a substantial portion of the work of the course. For the university policy concerning grades of incomplete, see <https://policy.umn.edu/education/gradingtranscripts>.

Further COVID statement:

People who are not vaccinated are at high risk for getting and spreading SARS-CoV-2, the virus that causes COVID-19. New variants of the virus spread more easily and quickly, particularly among young adults, which may lead to more cases of COVID-19 among college students this fall. An increase in the number of COVID-19 cases will strain healthcare resources and lead to more hospitalizations and potentially deaths.

The best defenses against contracting COVID-19 and spreading the virus to others are vaccination and masking. All members of the University community who can be vaccinated are strongly encouraged to get vaccinated. For resources about the vaccination and how to schedule an appointment, please refer to the University's Get the Vax initiative.

When indoors, you are currently required to wear a face covering (mask) to protect the entire community of students, faculty members, and staff. This will maintain a culture of safety to help protect all members of the community, and especially those who are immunocompromised and/or who are caretakers of others (e.g., young children) who are not yet vaccinated.

If you experience COVID-19 symptoms or symptoms of any potentially infectious respiratory illness (e.g., fever or chills, cough, shortness of breath or difficulty breathing, new loss of taste or smell, sore

throat, congestion or runny nose), you should stay home or in your residence hall room and not come to class. Please consult with your healthcare provider about an appropriate course of action, and please consult the M-test program for COVID testing resources. Such an absence is an excused absence.

Note that the pandemic guidelines update regularly in response to guidance from health professionals and the prevalence of the virus in our community. You will be notified of any changes.

University Policies:

- Academic freedom and responsibility: For information about academic freedom and responsibilities, consult the [Board of Regents Policy](#).
- Disability accommodations: The Disability Resource Center (DRC) is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you have, a disability in any area such as mental health, attention, learning, chronic health, sensory, or physical, please contact the DRC office at (612)626-1333 or visit <https://diversity.umn.edu/disability> to arrange a confidential discussion regarding equitable access and reasonable accommodations.
- Equity, diversity, equal opportunity, and affirmative action: The University provides equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult the [Board of Regents Policy](#).
- Mental health and stress management: As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.
- Sexual harassment: Sexual harassment means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the University setting. For additional information, please consult the [Board of Regents Policy](#).

For additional information on university policies, see <https://policy.umn.edu/education/syllabusrequirements-appa>

Note: Information contained in the course syllabus may be subject to change with advance notice, as deemed appropriate by the instructor.