

Fall 9-1-2018

M 273.01: Multivariable Calculus

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Syllabus:

M273 Multivariable Calculus - Fall 2018

Instructor:

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Office hours: TBA. See also www.umt.edu/people/chesebro.

Moodle

This site will contain all information on this sheet plus more. Homework assignments and other information pertinent to this course (such as office hours and tentative schedule) will be posted at this web site.

Learning Outcomes

- Explain 3-dimensional coordinate systems, dot and cross products, equations of lines and planes, cylinders and quadric surfaces;
- Explain vector-valued functions and space curves, their derivatives, arc length and curvature, and motion in space;
- Explain limits, continuity and partial derivatives of functions of several variables;
- Explain tangent planes to surfaces and linear approximations;
- Explain the chain rule, directional derivative and gradient vector, extreme values and Lagrange Multipliers;
- Explain double and triple integrals over general regions, and their applications;
- Explain triple integrals in cylindrical and spherical coordinates;
- Explain vector fields, line integrals and the Fundamental Theorem of Line Integrals;
- Define Green's Theorem;
- Explain curl and divergence of vector fields;
- Explain surface integrals, Stokes Theorem, and the Divergence Theorem.

Text

We will use the free [Openstax](#) textbook, [Calculus volume 3](#). By following these links, you may view the

book as an html file, download a pdf, or order a printed copy.

Graded work

Exams

We will have 3 50 minute in-class midterm exams and a cumulative final exam. Midterms are tentatively scheduled for TBA and TBA. The final exam will be given according to the [Registrar's schedule](#). It is your responsibility to take these exams at the scheduled time.

Weekly Homework

Written and online homework will motivate weekly quizzes. Written homework will not be collected and online homework will be submitted through the WebWork system.

To access WebWork, follow the link: <http://lennes.math.umt.edu/webwork2>. Once there, click "273-Calculus-III" to bring up a login window. As username use your last name (lowercase); your initial password is the last 6 digits of your student ID (with no dashes). Please change your password after logging in the first time by clicking "Password/Email" from WebWork's Main Menu.

Working hard on the homework is how you will succeed in this course, so please take the homework seriously. It is okay to work together with classmates on homework assignments, but you must write up your own solutions in your own words.

Quizzes

Weekly quizzes are based on assigned homework. Quizzes are given at the start of class, so please be on time. There will be no make-ups for missed quizzes. The lowest two scores will be dropped.

Calculators

You may use your favorite brand/model on homework and WebWork but no electronic devices will be allowed during quizzes nor exams. In the classroom I may use an online graphing calculator such as [desmos](#).

Grading

- Online homework: 15%.
- Quizzes: 15%.
- Midterms: 45%
- Comprehensive Final: 25%

≥ 93%	90%	87%	83%	80%	75%	70%	65%	62%	58%	55%	< 55%
A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Guidelines and policies

University dates and deadlines

You should be aware of the important dates and deadlines posted by the [Registrar's Office](#).

Academic honesty

I take academic honesty very seriously and I will act on any transgressions that I notice. Misconduct is subject to an academic penalty in this course and/or a disciplinary sanction by the university. We all know that a record of academic misconduct is a very bad thing to have documented in your academic history.

All students should be familiar with the [Student Conduct Code](#).

Disability modifications

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and [Disability Services for Students](#). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.