Spring 2-1-2022

M 273.01: Multivariable Calculus

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SYLLABUS: MATH 273, MULTIVARIABLE CALCULUS

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Time and Place: MTWF 9-9:50, Math 311.
Text: Calculus: Multivariable, 5th Ed., McCallum, Hughes-Hallett, Gleason, et. al., 2009. ISBN: 978-047013158-9
Prerequisite: M 172, 182, or consent of instructor.
Final Exam: 8-10:00, Wedensday, May 11.
Office Hours: Monday, Wednesday, Friday 2pm, but I am open to meeting at other times.

LEARNING GOALS:

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

ASSESSMENT: Your course grade be will determined as follows:

		Total points
Exam 1	E1	100
Exam 2	E2	100
Exam 3	E3	100
Final*	F	100
HW/Quizzes	Q	100

$*$ The final exam is comprehensive and is optional. If your final exam score is higher than at least one previous exam score, it will replace the score of your lowest exam.

HOMEWORK, QUIZZES, and EXAMS: Homework will be given daily and you will be tested on the homework material with a quiz once a week, usually on Tuesdays. Exams will be based on homework and quiz material.

CONDUCT & ACADEMIC HONESTY: Your conduct should be in line with the Student Conduct Code, which you can find on the UM home page; and you should practice academic honesty.

COVID-19 POLICIES: Mask use is required in class. Also, we have been asked to develop seating charts for our classes, so please pick a seat this week that you will use for the remainder of the semester. Last but not least, please get the vaccine if you haven't already.

FOR ANY STUDENT WITH A DISABILITY: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (ODE). If you anticipate or experience barriers based on disability, please contact the ODE at: (406) 243-2243, ode@umontana.edu, or visit www.umt.edu/disability for more information. Retroactive accommodation requests will not be honored, so please, do not delay. As your instructor, I will work with you and the ODE to implement an effective accommodation, and you are welcome to contact me privately if you wish.

IMPORTANT NOTE: Announcements made in class are considered addenda to this syllabus. Make sure you stay informed as to the progress of the class.