This syllabus contains information about this course. Please read this carefully and keep it for future reference (in case you loose it, a copy of the syllabus is posted on the class Moodle page). In case you have questions, please do not hesitate to ask.

Section	Days	Class Times	Room	CRN	Instructor
R00	MWF	12:00 – 12:50	Zoom	74748	Karel Stroethoff (course coordinator)
01	TuTh	9:00 – 9:50	Chem 123	70082	Ian Gonzales
02	TuTh	10:00 – 10:50	Chem 123	70083	Joey Lippert
B03	TuTh	11:00 – 11:50	LA 103 A/B	70260	Scott Payne
04	TuTh	12:00 – 12:50	Edu 123	74749	Eric Wagner

Contact Info:

Instructor	Email
Karel Stroethoff	karel.stroethoff@umontana.edu
Ian Gonzales	ian.gonzales@umontana.edu
Joey Lippert	samuel.lippert@umontana.edu
Scott Payne	scott.payne@umontana.edu
Eric Wagner	eric2.wagner@umontana.edu

Prerequisite: Precalculus (M 151) or College Trigonometry (M 122) or appropriate placement score (ALEKS placement ≥ 5 or M03-Maplesoft Calculus score ≥ 15).

Moodle Page: https://moodle.umt.edu/course/view.php?id=32991
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, which will be updated frequently, so you should visit it regularly.

Text: *Active Calculus*, by Matthew Boelkins, which is freely available in various formats from https://activecalculus.org/.

Description: Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.

Graphing Calculator: Recommended. You can use your favorite brand/model. In the classroom a TI-84 or TI-86 will be used or an online graphing calculator such as desmos. Please note that calculators or computers capable of symbolic algebraic computations are not allowed on exams.

UM COVID-19 Face Covering Policy: In order to help ensure the health and safety of the University of Montana (UM) community and the public, unless specifically exempted as outlined in the Procedures, all University employees, students, contractors, vendors and visitors must wear face coverings on site at a University location.

Safety for In-Person Instruction:
- Mask use is required within the classroom.
- Each student is provided with a cleaning kit, and is expected to clean personal work space after arriving, and before leaving the classroom.

SAFETY FOR IN-PERSON INSTRUCTION (CONT'D):

- Follow one-way entrances/exits to and from classrooms to minimize crowding.
- Do not congregate outside the classroom before and after class.
- Specific seating arrangements must be used to ensure social distancing and support contact tracing efforts; extra chairs can not be brought into the classrooms.
- Class attendance will be recorded to support contact tracing efforts.
- No drinking of liquids or eating of food within the classroom.
- Class sessions are being recorded.
- Stay home if you feel sick and/or if exhibiting COVID-19 symptoms, and please contact the Curry Health Center at (406) 243-4330.
- Up-to-Date COVID-19 Information from the University of Montana:
    - UM Coronavirus Website: https://www.umt.edu/coronavirus
    - UM COVID-19 Fall 2020 website: https://www.umt.edu/coronavirus/fall2020.php
- Please remain vigilant outside the classroom in mitigating the spread of COVID-19.

LEARNING OUTCOMES: The learning goals for this course are:

- Understand the idea behind the definition of a limit. Use the rules associated to limits to determine the limits of transcendental, rational and piecewise defined functions.
- Understand the idea behind and the rules of infinite limits, limits at infinity, asymptotes, indeterminate forms and how to use L'Hopital's Rule.
- Explain the limit definition of continuity.
- Explain the limit definition of the derivative of a function, how it relates to the function itself, and how to use it to compute derivatives.
- Use derivatives to find tangent lines to curves and velocity for particle motion.
- Apply the power, sum, product, quotient and chain rules of differentiation.
- Use the derivatives of exponential, logarithmic, trigonometric and hyperbolic functions.
- Explain implicit and logarithmic differentiation.
- Apply the Intermediate and Mean Value Theorems.
- Graphically analyze functions including using continuity and differentiation to determine local and global extrema, concavity, and inflection points.
- Use the derivative to solve related rate and optimization word problems.
- Explain Newton's Method for estimating zeros of a function.
- Explain the Riemann integral, areas under graphs, antiderivatives and the Fundamental Theorem of Calculus.

GRADING:

- MIDTERMS: There are three Midterm Exams scheduled for the *evenings* (6:00 pm – 7:30 pm) of September 17, October 8, and November 5 (Thursdays).
- FINAL EXAM: There will be a common Final Exam on all material covered in the course. This exam is scheduled for Monday, November 23, 6:00 pm – 8:00 pm.
- HOMEWORK: There will be frequent homework assignments with a mix of online and written assignments. More information is below.
- QUIZZES: There will be regular quizzes based on assigned homework and examples worked in class. There will be no make-ups for missed quizzes. The lowest quiz score will be dropped. Quizzes will be announced at least two class periods prior to a scheduled quiz.

- CLASS PARTICIPATION: Class participation points will be given for attendance and/or completing worksheets.

ASSESSMENT: 20% Homework
10% Quizzes
36% Three Midterm Exams (12% each)
24% Comprehensive Final Exam
10% Participation

GRADE SCALE:

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

MAKE-UPS: Make-ups for tests will be given under special and extenuating circumstances such as a family emergency or illness, provided that documentation (from the Health Service or Doctor) is furnished by the student. It is your responsibility to notify the course coordinator as soon as you know that you will miss any test and to make sure that a make-up is scheduled: please send an email so that it will be convenient to get back to you in order to schedule a make-up. Early final exams will *not* be given.

HOMEWORK: 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. There will be two components to your homework:

1. Online homework given through WeBWorK. To access this homework, go to the webpage https://lennes.math.umt.edu/webwork2/171-Calculus-I_Stroethoff/ 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.

2. Written homework will be collected regularly. With regard to the write-up of your written homework the following:

   - *Answers alone do not suffice.* It is important you *show* your work and provide *explanations* for your answers.

   - It should be legible. Please write clearly. If the grader cannot read it, you will not get credit for it.

   - Homework will need to be uploaded to https://www.gradescope.com/. Information about this will be provided with the first written homework assignment.

Late homework will not be accepted. The two lowest homework scores will be dropped. A list of all assigned homework will be posted on the Moodle page for this class.

REMOTE TESTING: The exams and (some of) the quizzes will be given remotely, using proctoring software that has not yet been determined. While specific hardware and software requirements are not yet known, the remote tests will require use of a webcam. Information will be provided once the university chooses a proctoring system. If you do not have access to a computer with webcam, the Mansfield Library has laptops that come with webcams, as well as webcams to check out.

MATH LEARNING CENTER: Free tutoring is available in the Math Learning Center (MLC) located in room Math 011 in the basement of the Math Building. No appointment is needed, but capacity is limited to meet physical distance requirements. Note that face masks are required to use the MLC.

MLC Hours

Monday – Thursday	10 am – 5 pm
Friday	10 am – 1 pm

For more information (including online "drop-in" via Zoom Sunday-Thursday 6-8pm, and by appointment) see https://www.umt.edu/MLC.

Some Important Dates:

Aug 19 (Wednesday):	First day Fall Semester instruction
Sep 7 (Monday):	Labor Day: No Class
Sep 17 (Thursday):	Midterm Exam 1, 6:00 pm – 7:30 pm.
Oct 8 (Thursday):	Midterm Exam 2, 6:00 pm – 7:30 pm.
Oct 21 (Wednesday):	Last day to drop or change grading option from letter grade to Credit/No Credit or vice versa using paper form. After this date a student is allowed to make these changes only by **petition**.
Nov 5 (Thursday):	Midterm Exam 3, 6:00 pm – 7:30 pm.
Nov 18 (Wednesday):	Last day Fall Semester instruction; last day to drop by petition
Nov 23 (Monday):	Final Exam, 6:00 pm – 8:00 pm.

Petitions for Late Drops and Late Change of Grading Option: After October 21 until November 18, you can petition to drop the course or to change the grading option (though not to Audit). Note that not all petitions are approved, and that documented justification is required. Examples of documented circumstances that may merit approval are: accident or illness, family emergency, or other circumstances beyond the student's control. The *only* acceptable reasons for a late change of grading option are the ones listed above, and the following reasons are **not** considered sufficient for approval: protecting grade point average (GPA), forgetting to turn in a change slip, or changes needed to retain financial aid or eligibility to engage in sports.

Study Advise: (i) Read through the material to be covered in the lecture before coming to class. This will be very helpful for taking notes in class and you will get more out of the lecture. The course will move rapidly. Daily reading in the textbook *with paper and pencil in hand to verify the calculations* (math books are *not* read as novels!) and doing all assigned problems will go a long way towards success in this course. You should plan to spend 2 hours outside of class for each hour in class (and *more* if you have missed a class!).
(ii) Do *not* equate understanding what the instructor does in class with being able to work (or solve) a problem yourself. When a problem or concept is explained in class you may understand this, but that does *not* imply that you can do a similar problem. You must work out the homework problems from beginning to end (without any help, see (iii)). The best way to learn mathematics is to do, to ask, and to do again.
(iii) Before starting your homework go over the concepts and examples from class and from the textbook. Memorize the formulas, algorithms, definitions, notations, etc. Then work through a few problems which have answers in the back of the book. Do the rest of your homework without using the book or your class notes.

Honesty: All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/student-affairs/dean-of-students/default.php.

Accommodation: The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors and Disability Services for Students (DSS). If you have a disability that adversely affects your academic performance, and you have not already registered with DSS, please contact DSS in Lommassen Center 154 (Phone: 243-2243). We will work with you and DSS to provide an appropriate accommodation.