Math 172 Calculus II Spring 2022

	Lead Instructor	Lab Assistant
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Office Hours:	MW 10-10:50 T 1:10-2:00 and by appointment	T 9:30-11:30 F 10-11 and by appointment

Text: *Calculus: Early Transcendentals (4th edition)* - Rogawski/Adams/Franzosa

Course Webpage: math.montana.edu/courses/m172/index.html

Online Homework/WebWork: webwork2.math.montana.edu/webwork2/S22M172/

Online Lab Submissions/Gradescope: www.gradescope.com/

Required Materials

- Textbook, see above.
- During labs at least one person in your group will need a laptop computer.
- A calculator/computer will be helpful with some of the homework, however not required. There will be no electronic devices allowed on quizzes or exams.
- Access to the internet to complete online homework (WebWork) and submitting written work (Gradescope).
- Matlab access available free through MSU - www.montana.edu/uit/purchase/matlab/

Class Format

The course is split into two components. There will be a lecture class format and an additional required lab. You will be attending face-to-face classes three days a week on Mondays, Wednesdays, and Fridays. You will also be attending math lab on either Tuesday or Thursday. When you signed up for classes, you also signed up for the math lab. Please see your schedule to see time and location of your lab.

Grading

- 80% of your grade will be made up by the four exams, each 20%.
- The remaining 20% will be evenly split between the categories of in class quizzes, WebWork, and weekly labs.
- Assignments will be graded on the 4 point scale.
- Earning at least 3.65 on the 4 point scale will guarantee a score of A- or better, earning at least 3 guarantees B- or better, 2.7 guarantees a C- or better and 2.6 guarantees D or better.

A	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D**	**F**
3.75-4.00	3.65-3.74	3.55-3.64	3.30-3.54	3.00-3.29	2.90-2.99	2.80-2.89	2.70-2.79	2.50-2.69	0-2.49

Decorum

You are expected to avoid any behaviors that would be disruptive in class. I reserve the right to ask you to leave or to put away any devices that are not helpful should I deem it necessary to maintain the integrity of the class. Among other items, please properly wear a face mask as long as MSU policy mandates it.

Disability Statement

If you have a physical, learning, or psychological disability and require accommodations, please let the Assistant Calculus Coordinator, Dr. Rob Malo (malo@montana.edu) know as soon as possible. You have the responsibility to identify yourself, request appropriate accommodations and reasonable modifications. You are encourage to contact Disability Services located in Romney 137. www.montana.edu/disabilityservices/

Four Point Grading Scale

4 - Complete

- Exhibits comprehensive and thoughtful understanding of content.
- Is organized and complete.
- Completely explained your ideas and math thinking.
- Used correct notation as needed.
- May contain a trivial error.

3 - Substantial

- Has some details to show you understood the problem
- Is mostly organized.
- Explains your ideas and math thinking.
- May contain some errors.

2 - Developing

- Doesnt have enough details to show you understood the problem.
- Doesnt clearly explain your ideas or math thinking.
- May contain significant gaps in understanding or communication.
- Is unorganized and unclear.
- May be incomplete.

1 - Minimal

- Showed no details.
- Doesnt make sense.
- Has no explanation of ideas of math thinking.

0 - No credit

- Is not seriously attempted.
- Insubstantial attempt.

Exams

The first three exams will be administered during class. The last exam will be during finals week at its assigned common hour time. There are no electronics (calculators, cell phones, ear buds, etc.) allowed during exams.

If there is an extreme circumstance that prevents you from taking an exam during its designated time, contact the Assistant Calculus Coordinator, Dr. Rob Malo (malo@montana.edu), before the exam, preferable a week prior. Please include your full name, section number, specific reason for conflict and which exams are impacted. **Work schedules, travel plans and wanting to leave early for spring break or summer are not considered extreme circumstances.** Depending on the nature of the situation, he may ask for documentation.

Quizzes

Throughout the semester, there will be several assessments that will be administered during the lectures. There will be a combination of in-class quizzes and worksheets that will be worked on in and out of class. If you have a university approved absence, please communicate with your instructor before the missed assignment to determine an alternative. Your lowest score(s) will be dropped. No late work will be accepted. Reading the entire section is part of the homework. You are responsible for all of the material in the text regardless of whether or not it was covered in class. On assessments, correct answers with little or no supporting work receive little or no credit.

Labs/Lab Sheets

You will be working in small groups during labs. You will need to have access to at least one laptop per group. You will be using various platforms that are available free to students. For each lab, you will need to turn in a group lab sheet in Gradescope with your written work for credit.

Written Work

This course develops communication skills through instruction that emphasizes the presentation of mathematical ideas in appropriate, clear, and precise mathematical language. It will also put an emphasis on the mathematical explanation that corresponds to the mathematics that is written. Throughout this course, you will be developing mathematical critical thinking skills that require both the conceptual understanding of the materials as well as being able to apply the ideas into different settings. The student will demonstrate the following communication objectives: When completing a written assignment (homework, quizzes, worksheets, etc.), show all work and do not submit your scratch paper. Only having mathematical equations without explanations will not receive full credit. Answers only will receive little to no credit. Be neat, use correct notation, and write carefully with problems in order.

Online Homework

There is online homework in WebWork consisting of homework exercises from the book. For each section covered in class, there will be an online homework assignment through WebWork. Assignments will be due throughout the week. All WebWork assignments will be due at 8:00pm in the evening on the day it is due. There is no credit for work submitted after due date. I suggest that you start homework early in order to seek any help that you may need. You will be required to submit answers online for credit.

Work and Attendance

Keeping up with the material and attendance are important. You are expected to be prepared for class by keeping up with the material. You are also expected to attend every class, ask and answer questions, and participate in classroom discussions. However, please evaluate your own health status regularly and refrain from attending class and other on-campus events if you are ill. MSU students who miss class due to illness will be given opportunities to access course materials online. You are encouraged to seek appropriate medical attention for treatment of illness. In the event of contagious illness, please do not come to class or to campus to turn in work. Instead notify me by email about your absence as soon as practical, so that accommodations can be made.

Math 172 is a 4 credit class which means that you should be dedicating at least 12 hours a week for this class. Your time will be split between attending class, reading the textbook, working on homework/worksheets and reviewing material.

Where to Find Help

- I strongly encourage people to take advantage of our office hours.
- You are also encouraged to work in groups as much as possible in understanding the concepts and homework problems. However, please do your homework on your own.
- There are video links available in D2L for all sections covered.
- The Math and Stat Center (formally the Math Learning Center) is available for face-to-face assistance in Romney Hall 220.
- Smarty Cats also offers some support for this class.

Academic integrity

Montana State University Bozeman is built upon a strong foundation of integrity, respect and trust. All members of the university have a responsibility to be honest and the right to expect honesty from others. Any form of academic dishonesty is unacceptable to our community and will not be tolerated. As college students you should be very familiar with the requirements for academic integrity. Any student found to have engaged in academic dishonesty of any form will meet with disciplinary action, including, but not limited to, a failing grade in the course. For further information, consult the Montana State University policy and procedures at: www.montana.edu/policy/student_conduct/#academichonesty

Broadly speaking, cheating means violating the policies of a course or of the university in order to gain an unfair advantage over fellow students. A particular kind of cheating is plagiarism, which means taking credit for someone elses work. Cheating and plagiarism hurt your fellow students in the short term, they hurt yourself in the long term, and they will not be tolerated. Math assignments are not intended to test your ability to find the answer by any means necessary. Rather, they are supposed to check your understanding of the course material, which you will need in order to use math correctly in the real world or in subsequent courses. Assignments are expected to be your own work, unless otherwise allowed by the instructor. Some classes allow or encourage collaboration on homework; in this case you must acknowledge your collaborators or else it is plagiarism. Obtaining answer to problems from solutions manuals, internet question and answer sites, or other sources is cheating unless specifically allowed by your instructor. When allowed, if you use proofs or calculations from textbooks or other sources, you need to cite these sources, even if you have rewritten the material in your own words, otherwise it is plagiarism.

Examples:

1. A student hands in work containing a part that is identical or substantially similar in expression, structure or reason to another submission or other source, not clearly indicated as such (for example, through use of quotation marks and providing a citation). This is academic misconduct.

2. Two students submissions for a piece of work may be substantially similar in presentation. If this is the result of joint work then this is not an offense. You are however strongly encouraged to acknowledge the collaborating working in your submission. If, however, one student copied the completed work from the other, then BOTH students have committed academic misconduct.

3. A student encounters a solution to a problem in a book, online, from another student or any other source, and reproduces it (or something very analogous to it) in their submitted work. This is academic misconduct. To avoid this, the student must re-express the arguments in his or her own words. One way to achieve this is by the student studying the original work and then writing their own version without repeatedly looking at the source.

Learning Outcomes

Learning Outcomes specific to M 172:

1. Evaluate integrals using a variety of methods (substitution, integration by parts, partial fraction decomposition, trigonometric substitution)

2. Set up and compute integrals in applied situations, such as finding volumes of solids of revolution, arc length, surface area, work, fluid pressure, and centers of mass

3. Determine convergence/divergence of series via various tests (recognizing geometric series, root test, ratio test, alternating series test)

4. Be familiar with power series (including interval and radius of convergence) and Taylor series expansions of common functions

Learning Outcomes Specific to Q-Core Courses:

1. Interpret and draw inferences from mathematical models such as formulas, graphs, diagrams or tables.

2. Represent mathematical information numerically, symbolically and visually.

3. Employ quantitative methods in symbolic systems such as, arithmetic, algebra, or geometry to solve problems.