Math 172, Section 01: Calculus II – Spring 2020

Instructor Information:
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Course Description:
Offered autumn and spring. Prerequisite, M 171. Techniques of integration, area computations, improper integrals, infinite series and various convergence tests, power series, Taylor's formula, polar coordinates, parametric curves.

Learning Outcomes: By the end of the course, students should be able to
1. Use the integral to find the area between two curves, and calculate volumes of revolution, work, the average value of a function, and arc length;
2. Use standard integration techniques, including trigonometric substitution, integration by parts, and partial fractions;
3. Identify and calculate improper integrals;
4. Use parametrized curves in rectangular and polar coordinates, and calculate their derivatives, arc lengths and enclosed areas;
5. Compute limits of infinite sequences, and test for monotonicity and boundedness;
6. Compute sums of geometric series and telescoping series;
7. Determine convergence, absolute convergence and divergence of infinite series using the standard convergence tests;
8. Compute the radius and interval of convergence of power series;

Textbook: Calculus (Single Variable), 6th edition, by Hughes-Hallett, Gleason, McCallum, et al. This text has been made available to us by the publishers in an online format; please let me know if you have any problems purchasing or accessing your text. You are also of course free to purchase a hard copy if that is your preference, but we have not ordered these to the UM bookstore.
Evaluation: There are 600 points available over the course of the semester. These are distributed as follows:

1. Three in-class exams, worth 100 points each
2. Five in-class quizzes, worth 20 points each
3. Five homework assignments, worth 10 points each
4. The final exam, worth 150 points

While your written homework will directly account for only about 10% of your semester grade, it is very important that you take it seriously! Engaging with your homework is the best way for you to build a solid understanding of the material, and the best way to prepare for quizzes and exams.

Calculators and Technology: In-class demonstrations may make use of mathematical technologies such as Geogebra. However, the questions asked in your homework, quizzes, and exams will never require the use of a graphing calculator or any other technology. As such, I recommend that you do your homework without the use of a calculator or any math software, and graphing calculators are not allowed on any quizzes or exams. You may use a scientific calculator (i.e., one capable of arithmetic but not of plotting functions, performing numeric integration, etc.) on quizzes and exams.

Grading Scale: I will consider any final class score above 90% an A. I am setting B's between 90% and 80%, C's between 80% and 65%, and D's between 65% and 55%.

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 think that you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommassen 154. I will work with you and DSS to provide an appropriate accommodation.

Academic 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.

Student Conduct Code: All students need to be familiar with the Student Conduct Code. The Code is available for review online; search for “Student Conduct Code” via the “A to Z Index” link on the UM home page, at present at the upper right corner.