Calculus I

Northern Michigan University

Fall 2020

Course Instructor

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Learning Outcomes

This course is an introduction to the basic notions of calculus. The overall goal is to understand the *fundamental theorem of calculus*, a beautiful interplay between the notions of *derivative* (i.e. the instantaneous rate of change) of a function, and the *integral* (i.e. the relative accumulation) of a function. Each of the topics leading up to and including the fundamental theorem of calculus will be explored in detail, including their variety of **applications** in real-world problems. By the end of the class, students will be comfortable making calculations with, and applying:

- functions of one variable (e.g. $x^q, \sin(x), \arccos(x), e^x, \ln(x), ...$)

- limits of functions: $\lim_{x \to a} f(x)$

- derivatives and antiderivatives of functions:

$$f(x) \rightsquigarrow f'(x), \ f(x) \rightsquigarrow \int f(x)$$

- deinite integrals of functions: $\int_a^b f(x)dx$

- the *fundamental theorem of calculus*: $f(b) - f(a) = \int_a^b f'(x)dx$.

Course Meeting Times

ma161-01
MWRF 11:00-11:50

live-stream: https://nmu.zoom.us/j/92525282566 (pw: calc2020)
JAMR 3309

Course Webpage

http://euclid.nmu.edu/∼drowe/teaching/fall_2020/f20_ma161.html

Grade Categories and Weights

Problem Sets	40%
Tests	30%
Final	30%

Within these grade categories, each item may be graded out of different point totals, *i.e.* $/42$, $/70$, but they are immediately converted to grades $/100$ that are rounded up in your favor.

Below is an example of how to calculate your course grade somewhere early to mid semester.

Suppose you have the following raw scores: Problem Set 1 $(34/42)$, Problem Set 2 $(60/70)$, Problem Set 3 $(24/35)$, Test 1 $(36/50)$.

- Problem Set 1 $\rightsquigarrow 81/100$

- Problem Set 2 $\rightsquigarrow 86/100$

- Problem Set 3 $\rightsquigarrow 69/100$

- Current *Problem Set* Grade: $236/300$

- Test 1 $\rightsquigarrow 72/100$

- Current *Test* Grade: $72/100$

- Current *Course* Grade: $(236/300) \times 40 + (72/100) \times 30 \approx 53.1$ out of 70 total points thus far, so a current course grade of $\rightsquigarrow 75.9\%$ (C+).

Grade Scale

92-100%	A
90-91%	A-
86-89%	B+
82-85%	B
80-81%	B-
76-79%	C+
72-75%	C
70-71%	C-
66-69%	D+
62-65%	D
60-61%	D-
0-59%	F

Late Policy

There will be a **zero tolerance** late policy for this class. All submissions of your work will be electronic, and they will have clear due dates and times.

Accessibility

If you have a need for disability-related accommodations or services, please inform the *Coordinator of Disability Services* in the Dean of Students Office at 2001 C. B. Hedgcock Building (906-227-1737 or disserv@nmu.edu). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.

Mask Accommodation ADA Statement

Certain students may qualify for alternative face-covering accommodations due to a variety of health conditions. These students have gone through a qualifying process with the Office of Disability Services. Faculty have been notified of which students receive these accommodations in their class. If you have concerns regarding this topic please contact the faculty member outside of class. Please do not question or confront fellow students in the classroom who are using alternative or modified face coverings.