

Calculus I

Winter 2017

Course Instructor

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Office Hours: MWR 2-3, R 10-11

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 the world around us. At the end, students will be able to *understand* and *apply*:

- functions: $f(x)$,
- some transcendental functions and their inverses,
- limits: $\lim_{x \rightarrow a} f(x)$,
- derivatives: $f'(x)$,
- integrals: $\int_a^b f(x) dx$,
- the *fundamental theorem of calculus*: $f(b) - f(a) = \int_a^b f'(x) dx$.

Course Meeting Times

ma161-03

MWRF 1:00-1:50

West Science 2911

Course Webpage

The course webpage will be on the *NMU EduCat* system, which can be accessed at <https://educat.nmu.edu>.

Textbook

James Stewart, *Single Variable Calculus: Early Transcendentals*, 8E, Brooks/Cole.

Grading Scheme

Problem Sets (30%)	Quizzes (10%)	Tests (30%)	Final (30%)
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Problem Sets, Quizzes, and Tests

There will be 4 tests evenly spaced throughout the semester. A few days before each test will be a "trial run" quiz that helps you get prepared for the test. There will also be problem sets posted to *EduCat* with evenly spaced due dates throughout the semester. These problem sets are the backbone of the class. We will sometimes devote entire classes to working together on the problem sets.

Advice

Learning is an active *process*, and it is critical that you be respectful of this process. I will be working very hard to make this class exciting, engaging and clear, but you will have responsibilities as well. It is *very important* that you attend every class. You need to be *present* and *engaged*. When learning math, you cannot simply sit back and let the information soak in; you must invest your time, little by little, struggling with concepts and problems, making mistakes, and then finding the solutions.

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 2101 Hedgcock Building (906-227-1700 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.