

Calculus I

Winter 2016

Course Instructor

Daniel Rowe

JXJ 2228

darowe@nmu.edu

Office Hours: M 3-4, W 3-4, R 11-12, 3-4

Learning Outcomes

This course is an introduction to the *fundamental theorem of calculus*, a beautiful interplay between the notions of *derivative* or "relative change", and the *integral* or "relative summation" of a function. The goal of this course is to illustrate the fundamental theorem of calculus, by exploring its many applications in the world around us. By the end of this course students will be able to *understand* and *apply*

- the function concept: $f(x)$
- some specific functions: $\sin(x)$, $\arcsin(x)$, e^x , $\ln(x)$, ...
- the limit concept: $\lim_{x \rightarrow a} f(x)$
- the derivative of a function: $f'(x)$
- the integral of a function: $\int_a^b f(x)dx$
- the fundamental theorem of calculus: $f(b) - f(a) = \int_a^b f'(x)dx$.

Course Meeting Times

ma161-01

MWRF 2-2:50

JXJ 3100

ma161-03

MWRF 1-1:50

WEST 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*, Brooks/Cole.

Grading Scheme

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

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 located in 2001 Hedgcock (906-227-1700). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation.

This syllabus is subject to change with notice.
