

Math 136: Calc II (Section 1: MW 8:50-10:20)

Course name: Math 136 - Calculus II (Section 1)

Instructor: Dr. Danny Crytser

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Class Meetings: MW 8:50-10:20 in Valentine 202

Office hours: Monday and Wednesday 10:30-11:30, Tuesday 10:10-11:30, and by appointment. If you can't make it to scheduled office hours, please email me and we can definitely make an appointment.

Textbook: *Calculus: Single Variable* by Hughes-Hallett et al., 7th ed. You will get access to the book online via WileyPlus. (It is also possible to purchase a physical copy, but not requiredap.)

Course contents: This course is an introduction to the integral, which is the secondmain concept of calculus. We will begin with approximation of areas and accumulated amounts, then talk about antiderivatives and the fundamental theorem of calculus. We will study basic techniques of integration such as substitution and integration by parts, and then we will devote a considerable amount of time to studying applications to geometry, physics, and other sciences. Finally we will introduce the notion of differential equations, and study their solution and applications.

Daily Worksheets: During each class meeting I will distribute worksheets for you to complete in groups. I will assign the groups and change them regularly.

Homework: There are written assignments due at the beginning of class every Wednesday. These are mostly to prepare you for the quizzes.

Quizzes: There will be quizzes each Wednesday at or near the end of class. These are not meant to be difficult and will mostly consist of near-duplicates of HW problems, or of problems from the daily worksheets.

Exams: Three midterms and a final. The midterms are on the weekly schedule on the next page. Please let me know if this schedule conflicts with any of your other commitments. Generally I will allow makeups for university-sanctioned activities and for medical/family emergencies, but not in any other case.

Grading: There are 830 pts you can earn in this course (that number might change slightly). The total semester HW grade is worth 50 points, the midterms are worth 100 pts each, the final is worth 150 points, and each of the 11 quizzes is worth 30 points. There may be opportunities for extra credit/bonus points throughout the term.

Grading scale: Here is the conversion between percentage and four-point scale.

94-100	4.0	73-75	2.25
91-93	3.75	70-72	2.0
88-90	3.5	68-69	1.75
85-87	3.25	65-67	1.5
82-84	3.0	63-64	1.25
79-81	2.75	60-62	1.0
76-78	2.5	0-59	0

Weekly schedule: This schedule is *tentative*.

Class	Section	Topics
W 1/17	5.1	Measuring distance traveled
M 1/22	5.2	The definite integral
W 1/24	5.3,4	Interpreting the definite integral
M 1/29	6.1	Antiderivatives numerically and graphically
W 1/31	6.2	Antiderivatives; Fundamental Theorem of Calculus
M 2/5	7.1	Integration by substitution
W 2/7	7.2	Integration by parts
M 2/12	7.6,7	Improper integrals
W 2/14	7.6, 7	Improper integrals, ctd.
M 2/19	–	Review
W 2/21	–	EXAM 1
M 2/26	6.3	Differential equations
W 2/28	8.1	Using Riemann sums
M 3/5	8.2	Applications to geometry
W 3/7	8.2	More geometry
M 3/12	8.5	Applications to physics
W 3/14	8.6	Applications to economics
M 3/19	–	Spring Break WOOHOO
W 3/21	–	Spring Break WOOHOO, Ctd.
M 3/26	–	Catchup and review
W 3/28	–	EXAM 2
M 4/2	7.5	Approximating definite integrals
W 4/4	7.5	Approximating
M 4/9	11.1	Differential equations
W 4/11	11.2,4	Slope fields, separable equations
M 4/16	11.5, 6	Applications of differential equations
W 4/18		Systems of differential equations
M 4/23	–	Review
W 4/25	–	Exam 3
M 4/30	11.9	More systems of diff eqns
W 5/3	–	Review. Last class!

FINAL EXAM: Tuesday, May 8th, 8:30-11:30 AM.

How to succeed: The pace of this course is not meant to be punishing but, as a university course, this will probably be more difficult than your previous mathematics courses. As such you must attend all lectures, submit all HW, keep a consistent study schedule, and make use of all resources at your disposal. Those include: asking questions during lecture, coming to my office hours, going to the QRC, forming study groups, and if need be inquiring about private lessons/tutoring. I am more than happy to help you navigate the various resources at your disposal. However it is ultimately your responsibility to figure out how to succeed in this course.

Calculators: you will need a calculator in the TI-83 or TI-84 range, or other brand equivalent. You cannot use a TI-89 or equivalent, or anything more powerful than a TI-89.

Accessibility: Please inform me of any additional accommodation you require for this course. The Disability and Accessibility Services center in 33 Whitman Annex are the people to talk to *first*; after you have spoken with them, please inform me of the specific plan that I need to help you implement in order for you to succeed. I'm more than happy to comply with whatever plan you make, but I need advance notice, especially before exams. If you come to me a couple minutes before the exam and announce that you require special accommodations, I may not be able to help on such short notice.

Academic honesty policy: Click on the link to the pdf at

<http://stlawu.edu/academic-affairs/resource/academic-honor-policy>

In this course you are encouraged to collaborate on HW, but don't copy your the work of your friends, and never cheat on quizzes or exams. When in doubt, please email me and I'll be very happy to clarify things for you.

Finally: Have fun! Calculus is a very elegant and useful subject, one that people actually use in real-world applications and one which solves important problems. Integrals and differential equations are used throughout physics, economics, engineering, biology, mathematics, and many other disciplines.