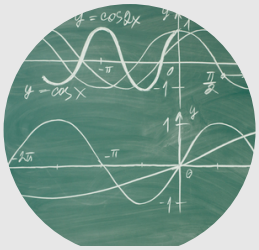

Calculus II

MA 126

Instructor Info

Brittany Burdette

University Hall 4011

beburd@uab.edu

Prerequisites

- C or Higher in Calculus I
- or 4+ on AP Calc AB
- or Placement Test Score

Assignment Types

- Participation: Course Notes Submission, Exam Reviews, Derivative & Integral Drills
- 2 WebAssign HW's per Week
- Weekly Quizzes, Best 10/12 - No Make Ups
- Worksheets
- 3 Midterm Exams and 1 Final Exam

Overview

Calculus II builds on the fundamentals of Calculus I, first by delving deeper into integration techniques. In this course we will learn applications to integration, including area, volume (disc method, washer method and shell method), and work problems. We'll also introduce vectors, and operations on vectors including the dot product and cross product. Finally we'll spend time with infinite sequences and series, first learning methods to identify convergent sequences and series and we'll finish the course with a study of Taylor series and power series.

Material

Required Texts

Stewart, James. *Essentail Calculus* Cengage Learning. 2nd edition (2013). E-Book Comes with UAB Opt-In Through Webassign

WebAssign

Webassign - Access through Canvas and use the University-wide First-Day Access to pay

Lecture Notes

You will submit a picture/pdf of each of your section notes on Canvas at the end of each week.

Grading Scheme

31%	Webassign Homework (Best 31 out of 33)
10%	Weekly Quizzes (In class, best 10/12 quizzes. Two drops. No make ups.)
30%	Midterm Exams, 10% each
10%	Cumulative Final
9.9%	Lecture Notes (0.3 points each)
6%	Worksheets (0.5 points each)
2%	Exam Reviews (0.5 points each)
1.1%	Derivative and Integral Drills (0.55 points each)

Grades will follow the standard scale: A = 88-100; B = 75-87; C = 62-74; D = 50-61; F $<$50.

Webassign Homework

There is one webassign homework corresponding to each section of the notes. The assignment is designed to take between 1-2 hours to complete altogether. Please TRY THE PROBLEM YOURSELF before seeking help. See this link for more information on UAB First Day Access: LINK.

Quizzes

At the end of each week there will be a quiz in class covering the material from the previous few classes.

FAQs

How do I sign up/pay for Web Assign?

You are automatically enrolled in the UAB First-Day Access program which includes Webassign access as part of your course fees. If you wish to opt-out (only recommended if you have Cengage Unlimited), go to “Course Materials" on our canvas page.

How do I submit the lecture notes?

After completing the lecture notes, use a scanning app to turn the completed notes into a pdf. Then submit them on canvas.

What if I miss a deadline?

For Cengage (Webassign) assignments, there is an option to request an extension within the assignment. Click that button and give a brief statement about why you need the extra time.

Do I get to use a note card with formulas?

You cannot bring your own note card, but a reference sheet will be provided for you during the exam. You can view the reference sheet ahead of time on canvas.

Exams

There will be 3 midterm exams throughout the semester (each exam will be part multiple-choice and part free-response) at the end of each unit (see course schedule for dates). The final exam will be a cumulative. Each exam is worth 10%. You may use any calculator without internet connection on the exam. A reference sheet which you may view ahead of time on canvas will be provided during the exam.

Lecture Notes

In order to ensure class participation, students will submit a copy of their notes from each lecture (written in THEIR OWN HANDWRITING with their name signed at the top). An app such as CamScanner to take a picture of the notes and convert them to pdfs would be a useful tool in turning in your lectures notes to Canvas.

Worksheets

Each week there will be a worksheet to complete and turn in during class.

Make-up Policy

An excused absence will allow you to make up exams. It is your responsibility to reach out to your instructor to schedule a time to make up missed exams. Accompanying paperwork such as a document from a medical professional or a court (for jury duty or other mandatory court appearance) is only required for exams.

Diversity and Inclusivity Statement

We consider this classroom to be a place where you will be treated with respect, and we welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability - and other visible and non-visible differences. All members of this class are expected to contribute to a respectful, welcoming and inclusive environment for every other member of the class.

FAQs

How do I sign up/pay for Web Assign?

You are automatically enrolled in the UAB First-Day Access program which includes Webassign access as part of your course fees. If you wish to opt-out (only recommended if you have Cengage Unlimited), go to “Course Materials" on our canvas page.

How do I submit the lecture notes?

After completing the lecture notes, use a scanning app to turn the completed notes into a pdf. Then submit them on canvas.

What if I miss a deadline?

For Cengage (Webassign) assignments, there is an option to request an extension within the assignment. Click that button and give a brief statement about why you need the extra time.

Do I get to use a note card with formulas?

You cannot bring your own note card, but a reference sheet will be provided for you during the exam. You can view the reference sheet ahead of time on canvas.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation:

1. Register with UAB’s Disability Support Services by providing appropriate documentation. (https://www.uab.edu/students/disability/)
2. Email your instructor (beburd@uab.edu) your accommodation letter, along with any additional information.
3. Register for the exams through the DSS (if you get extended time) to ensure testing accommodations are met.

This should be done as early as possible in the semester as accommodations are not retro-active. However, you can submit your accommodation letter to the instructor at any point in the semester.

Academic Integrity

UAB students are bound by the Academic Integrity Code, which can be found here: https://www.uab.edu/one-stop/images/documents/academic-integrity.pdf. Instances of cheating will be dealt with according to the code.

Campus Resources

There are many counseling and wellness programs available to you as a UAB student. If you or a friend is in distress, please visit:

https://www.uab.edu/students/counseling/resources/campus-resources

for a list of available resources and reach out for help.

Extra Help

There are many opportunities available for extra help. One of the most useful is the Math Learning Lab. You can attend without an appointment and get help with any math class (up to Calculus 2). Learning Lab information can be found at this link: https://www.uab.edu/cas/mathematics/student-resources/math-learning-lab

Addendum

This syllabus is subject to change. Any changes will be both posted to Canvas and emailed directly to each student.

Class Schedule

MODULE 1: Sections 1.1-4.1

Week 1	Section 1.1 - Functions & Function Notation	Submit Completed Lecture Notes & Webassign HW 1.1 by 11:59 p.m. on Sunday, 1/15/23
	Section 1.2 - Limits	Submit Completed Lecture Notes & Webassign HW 1.2 by 11:59 p.m. on Sunday, 1/15/23
	Section 1.3 - Derivatives & Their Basic Properties	Submit Completed Lecture Notes & Webassign HW 1.3 by 11:59 p.m. on Sunday, 1/15/23
	Derivative Drills worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 1/15/23
	Quiz 1.1-1.3 - In Class	
Week 2	Section 1.4 - Antiderivatives & Area	Submit Completed Lecture Notes & Webassign HW 1.4 by 11:59 p.m. on Sunday, 1/22/23
	Section 2.1 - The Area Problem	Submit Completed Lecture Notes & Webassign HW 2.1 by 11:59 p.m. on Sunday, 1/22/23
	Riemann Sums worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 1/22/23
	Quiz 1.4-2.1 - In Class	
Week 3	Section 2.2 - The Definite Integral	Submit Completed Lecture Notes & Webassign HW 2.2 by 11:59 p.m. on Sunday, 1/29/23
	Section 2.3 - Evaluating Definite Integrals	Submit Completed Lecture Notes & Webassign HW 2.3 by 11:59 p.m. on Sunday, 1/29/23
	Section 2.4 - Integration by Substitution	Submit Completed Lecture Notes & Webassign HW 2.4 by 11:59 p.m. on Sunday, 1/29/23
	Integral Drills worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 1/29/23
	Quiz 2.2-2.4 - In Class	
Week 4	Section 3.1 - Inverse Functions	Submit Completed Lecture Notes & Webassign HW 3.1 by 11:59 p.m. on Sunday, 2/5/23
	Section 3.2 - The Logarithm Function	Submit Completed Lecture Notes & Webassign HW 3.2 by 11:59 p.m. on Sunday, 2/5/23
	Section 3.3 - The Exponential Function	Submit Completed Lecture Notes & Webassign HW 3.3 by 11:59 p.m. on Sunday, 2/5/23
	Logarithms & Exponential Functions worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 2/5/23
	Quiz 3.1-3.3 - In Class	
Week 5	Section 3.4 - The Inverse Trig Functions	Submit Completed Lecture Notes & Webassign HW 3.4 by 11:59 p.m. on Sunday, 2/12/23

	Section 4.1 - Integration by Parts	Submit Completed Lecture Notes & Webassign HW 4.1 by 11:59 p.m. on Sunday, 2/12/23
	Integration by Parts worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 2/12/23
	Quiz 3.4-4.1 - In Class	

MODULE 2: Sections 4.2-6.3

Week 6	Exam 1 (Sections 1.1-4.1)	Monday, February 13, 2023, In Class
	Section 4.2 - Integration by Partial Fractions	Submit Completed Lecture Notes & Webassign HW 4.2 by 11:59 p.m. on Sunday, 2/19/23
	Section 4.3 - Trigonometric Integrals	Submit Completed Lecture Notes & Webassign HW 4.3 by 11:59 p.m. on Sunday, 2/19/23
	Intro to L'Hopital's Rule worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 2/19/23
	Quiz 4.2-4.3 - In Class	
Week 7	Section 4.4 - L'Hopital's Rule & Improper Integrals	Submit Completed Lecture Notes & Webassign HW 4.4 by 11:59 p.m. on Sunday, 2/26/23
	Section 5.1 - Area	Submit Completed Lecture Notes & Webassign HW 5.1 by 11:59 p.m. on Sunday, 2/26/23
	Section 5.2 - Volume	Submit Completed Lecture Notes & Webassign HW 5.2 by 11:59 p.m. on Sunday, 2/26/23
	Volume worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 2/26/23
	Quiz 4.4-5.2 - In Class	
Week 8	Section 5.3 - Work	Submit Completed Lecture Notes & Webassign HW 5.3 by 11:59 p.m. on Sunday, 3/5/23
	Section 6.1 - Cartesian Coordinate Systems	Submit Completed Lecture Notes & Webassign HW 6.1 by 11:59 p.m. on Sunday, 3/5/23
	Section 6.2 - Vectors as Directed Line Segments	Submit Completed Lecture Notes & Webassign HW 6.2 by 11:59 p.m. on Sunday, 3/5/23
	Cartesian Coordinates worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 3/5/23
	Quiz 5.3-6.2 - In Class	
Week 9	Section 6.3 - Vectors in Component Form	Submit Completed Lecture Notes & Webassign HW 6.3 by 11:59 p.m. on Sunday, 3/12/23
	Exam 2 (Sections 4.2-6.3	Thursday, March 9, 2023, In Class
No School	Spring Break	March 13 - March 19

MODULE 3: Sections 6.3-7.8

Week 10	Section 6.4 - The Dot Product of Vectors	Submit Completed Lecture Notes & Webassign HW 6.4 by 11:59 p.m. on Sunday, 3/26/23
	Section 6.5 - The Cross Product	Submit Completed Lecture Notes & Webassign HW 6.5 by 11:59 p.m. on Sunday, 3/26/23
	Section 6.6 - Vector Functions & Space Curves	Submit Completed Lecture Notes & Webassign HW 6.6 by 11:59 p.m. on Sunday, 3/26/23
	Dot & Cross Product worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 3/26/23
	Quiz 6.4-6.5 - In Class	
Week 11	Section 6.6 - Lines & Planes in Space	Submit Completed Lecture Notes & Webassign HW 6.6 by 11:59 p.m. on Sunday, 4/2/23
	Section 6.7 - Vector Functions & Space Curves	Submit Completed Lecture Notes & Webassign HW 6.7 by 11:59 p.m. on Sunday, 4/2/23
	Section 6.8 - Arc Length	Submit Completed Lecture Notes & Webassign HW 6.8 by 11:59 p.m. on Sunday, 4/2/23
	Space Curves worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 4/2/23
	Quiz 6.6-6.8 - In Class	
Week 12	Section 7.1 - Infinite Sequences	Submit Completed Lecture Notes & Webassign HW 7.1 by 11:59 p.m. on Sunday, 4/9/23
	Section 7.2 - Infinite Series	Submit Completed Lecture Notes & Webassign HW 7.2 by 11:59 p.m. on Sunday, 4/9/23
	Sequences worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 4/9/23
	Quiz 7.1-7.2 - In Class	
Week 13	Section 7.3 - Convergence Tests	Submit Completed Lecture Notes & Webassign HW 7.3 by 11:59 p.m. on Sunday, 4/16/23
	Section 7.4 - Power Series	Submit Completed Lecture Notes & Webassign HW 7.4 by 11:59 p.m. on Sunday, 4/16/23
	Series worksheet	Submit Worksheet online by 11:59 p.m. on Sunday, 4/16/23
	Quiz 7.3-7.4 - In Class	
Week 14	Section 7.5 - Defining Functions from Power Series	Submit Completed Lecture Notes & Webassign HW 7.5 by 11:59 p.m. on Sunday, 4/23/23
	Section 7.6 - Taylor Series	Submit Completed Lecture Notes & Webassign HW 7.6 by 11:59 p.m. on Sunday, 3/26/23
	Exam 3 (Sections 6.4-7.6)	Thursday, April 20, 2023, In Class
Week 15	Cumulative Final	Wednesday, April 26 (1:30 - 4:00 p.m.)