

Math 1161.0X Sections 0010 and 0020 – Autumn 2018 (updated 9/14/2018)
Accelerated Calculus I

Instructor:

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Office Hours: MW 12:30pm-2pm in MW650

Meeting times and locations:

Section 0010 MWF 9:10AM-10:05AM in Journalism Building (JR) 270

Section 0020 MWF 11:30AM-12:25PM in Scott Laboratory (SO) E125

Course webpages:

<https://people.math.osu.edu/broaddus.9/11610X>

<https://carmen.osu.edu/>

Textbook:

W. Briggs, L. Cochran and B. Gillett, *Calculus for Scientists and Engineers: Early Transcendentals, OSU 2nd Custom Edition*, Pearson 2015. ISBN-13: 978-1-269-93919-5 (Hardcover)

[https://math.osu.edu/sites/math.osu.edu/files/Calculus Book Buying Guide 2017-2018.pdf](https://math.osu.edu/sites/math.osu.edu/files/Calculus%20Book%20Buying%20Guide%202017-2018.pdf)

for your full list of textbook options

About this course:

Welcome to Math 1161! This course is a fast-paced introduction to differential and integral calculus.

What you should get out of this course:

During the course of this semester we will cover the following topics:

2.1, 2.2 The Idea of Limits; Definition of Limits

2.2, 2.3 Definition of Limits; Limit Laws

2.4, 2.5 Infinite Limits; Limits at Infinity

2.5, 2.6 Limits at Infinity; Continuity, the Intermediate Value Theorem

2.7 Precise Definition of Limits

3.1 Introducing the Derivative

3.2, 3.3 Rules of Differentiation; Product and Quotient Rules

3.4, 3.5 Derivatives of Trig Functions; Derivatives as Rate of Change

3.5, 3.6 Derivatives as Rate of Change; The Chain Rule

3.7 Implicit Differentiation

3.8, 3.9 Derivatives of Log arithms and Exponential Functions; Derivatives of Inverse Functions

3.10 Related Rates

- 4.1 Maxima and Minima
- 4.2, 4.3 What derivatives Tell Us; Graphing
- 4.4 Optimization Problems
- 4.5, 4.6 Linear Approximations and Differentials; Mean Value Theorem
- 4.6, 4.7 Mean Value Theorem; L'Hopital's Rule
- 4.9 Antiderivatives
- 5.1 Approximating Areas under Curves, Sigma Notation
- 5.2 Definite Integrals Midterm 2
- 5.3 Fundamental Theorem of Calculus
- 5.4; 5.5 Working with Integrals; Substitution Rule
- 5.5, 6.1 Substitution Rule; Velocity and Net Change
- 6.2 Regions between Curves
- 6.3 Volumes by Slicing
- 6.4 Volumes by Shells
- 6.5, 6.6 Lengths of Curves; Surface Area
- 6.7 Physical Applications: Density & Mass, Work, Lifting Problems, Force & Pressure
- 6.8, 6.9 Log and Exponential Functions Again; Exponential Growth and Decay
- 7.1, 7.2 Integration: Basic Approaches; Integration by Parts Midterm 3
- 7.3 Trig Integrals
- 7.4 Trig Substitutions
- 7.5 Partial Fractions
- 7.8 Improper Integrals

Grading:

Your grade will be computed using the follows weights:

- 16% Homework
- 12% Quizzes
- 16% Midterm 1 – Friday, September 21 – In Lecture
- 16% Midterm 2 – 6pm-6:55pm Thursday, October 18
- 16% Midterm 3 – 6pm-6:55pm Thursday, November 15
- 24% Final exam – 8pm-9:45pm Monday, December 10

There is no extra credit in this course. Your grades will be recorded on Carmen and your final grade will be assigned using the standard grading scale below.

Grading Scale:

93% A 90% A- 87% B+ 83% B 80% B- 77% C+ 73% C 70% C- 67% D+ 60% D

Homework:

Online Homework will be available through MyMathLabs. You may request a single one-day extension for one online homework assignment during the semester. You should make this request in advance via email to your TA.

Written homework assignments will be announced on the course website

<https://people.math.osu.edu/broaddus.9/11610X>

and is **due at the beginning of recitation. No late homework will be accepted!** If you cannot make it to recitation be sure to make arrangements for a classmate to hand in your homework for you. Your lowest written homework grade will be dropped. It is your responsibility to check the website daily to make sure that you do not miss a homework assignment. Homework must be submitted in person. **No electronic submission will be accepted** except in the case of a documented emergency and in those cases only print-ready formats (single pdfs or docs) are acceptable.

Working Together:

You are encouraged to work together on homework assignments. In fact it is a very good idea to find a classmate to work with on a regular basis. However, you should write up your homework solutions separately.

Quizzes:

There will be 9 quizzes during recitations. Your lowest quiz grade will be dropped.

Help:

If you are having trouble in the class you can

1. ask lots of questions in class (this is my favorite option)
2. ask your TA during recitation
3. visit the **MSLC Tutor Room** in Cockins Hall (CH) 014.

<https://mslc.osu.edu/courses/math/1161>

4. come to my office hours (Mondays and Wednesdays 12:30pm-2pm in MW650)
5. make an appointment with me for another time

Don't let yourself fall behind. This class moves very quickly.

Calculators and other electronic devices:

Smart phones, tablets, computers, calculators, and other electronic computation devices are not allowed during midterm and final exams. You are encouraged to do further research on your homework online, but you should not consult online solution sets for this course for homework that you have not handed in or hope to have graded in the future.

Academic Misconduct Statement:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for

the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-48.7). For additional information, see the Code of Student Conduct at <http://studentlife.osu.edu/csc/>.

Disability Statement:

The University strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.