

Math 155 - Calculus I, Spring 2021 Course Syllabus

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Office hours: Social distancing guidelines necessitate that I will only be able to meet in-person in my office by appointment. I will be available for virtual face-to-face office hours on Google Meet using the meeting code TechMathLeary during the following times:

Mon 1-2, Tues 11-12, Wed 1-2 & 6-7, Fri 11-12 & 1-2

Class Room/Time: INN-B 311, MTWRF 12:00-12:50 pm

Course website: community.wvu.edu/~bal0018/math155S21.html (as a backup website, I will also try to keep the eCampus site updated)

Course announcements and possibly homework assignments will be posted on the website. Please be sure to check the website regularly, and to regularly check the email address you have on record. You are responsible for any information posted on the course website.

Textbook: OpenStax *Calculus*, available to download for free at <https://openstax.org/details/books/calculus-volume-1>.

Catalog Data: MATH 155. Calculus 1. 4 Hours. Introduction to limits, continuity, derivatives, antiderivatives, definite integrals, and applications of the derivative. Not open to students who have earned credit in MATH 153 and/or MATH 154. This course satisfies GEF3 Mathematics & Quantitative Skills.

Prerequisite: MATH 126 and MATH 128; or MATH 129; or ACT math score of 28 or higher.

Course material: Calculus is the branch of mathematics studying change, primarily by making rigorous the notions of infinitely large quantities and infinitesimally small quantities. Chapter 2 accomplishes this by defining the limit of a function. Chapters 3 and 4 introduce the concept of the derivative, which allows us to study the rate of change of a function. Chapters 5 and 6 introduce the concept of the integral, which allows us to compute the area under the graph of a function. A rough outline of the topics covered can be found on the next page.

Course Objective: This course is designed to give students in mathematics, engineering and the sciences the basic concepts of limits, continuity, differentiation and integration.

Learning Outcomes: Upon completion of this course the student will be able to do the following:

1. Find a limit of a given function and discuss its continuity and differentiability.
2. Find the first and second derivatives of a given function, and use this information to analyze the function and sketch its graphs.
3. Apply derivative analysis to optimization problems, linearization problems and approximation problems.
4. Integrate basic functions and be able to use some techniques of integration.
5. Use integration in applications, including finding the area between curves, finding the volume of solids of revolution, and finding the work done on a system.

Topics:

1. Limits and Rates of Change (8 days - Chapter 2)
2. Derivatives (12 days - Chapter 3)
3. Mean Value Theorem and Curve Sketching (13 days - Chapter 4)
4. Integrals (15 days - Chapter 5)
5. Applications of Integration (15 days - Chapter 6)

Grading: Your final grade will be based on homework, quizzes, four exams during the semester, and the final exam. Your final course score will be the maximum of the following two grading schemes:

- 10% Homework + 5% Quizzes + 15% Exam 1 + 15% Exam 2 + 15% Exam 3 + 15% Exam 4 + 25% Final Exam
- 10% Homework + 5% Quizzes + 20% (highest grade of the four exams) + 20% (2nd grade of the four exams) + 15% (3rd grade of the four exams) + 30% Final Exam

Letter Grade Cutoffs: A: 90%, B: 80%, C: 70%, D: 60%, F: below 60%

Homework: Homework will be completed online with MyOpenMath.com. When you sign-up, you will use the Course ID and Enrollment Key given in class and posted on the eCampus site. Homework assignments will be due most Fridays.

Exams: There will be four exams, tentatively scheduled for Friday, February 5; Friday, February 26; Wednesday, March 24, and Wednesday, April 14. These will be 50 minute exams taken during the regular lecture time. The final exam time has been set by the university, and will be on Wednesday, May 5 from 10:00-11:50 am. Make-up exams will only be given to students with excused absences, and such make-up exams must be scheduled within 24 hours of the missed exam.

Quizzes: There will be a quiz given most weeks in which there is no exam. This will be a very brief quiz given at the beginning of class on Friday, intended to test you with more immediacy than the exams and with less consequence. The problems that appear on the quiz will be similar to the homework problems assigned. Only your best 5 quizzes will count toward your grade, and there will be absolutely NO make-up quizzes.

Getting Help: Always remember: asking for help when you need it is not a sign of weakness, but a sign of strength! Please feel free to virtually attend my office hours or email me if you have questions about the course material. If you are unable to make it to my regularly scheduled office hours, I am willing to make an appointment to meet at another time if possible. Additionally, you can get help in the Math Tutoring Lab in LRC 323 from 8 AM to 4:30 PM. Free tutoring is also available through Student Support Services, located in Benedum 130, and the Student Success Center, located in the library on the second floor of LRC. Finally, I would also encourage the formation of study groups, to learn from each other and help each other learn.

Institutional Policies: Students are responsible for reviewing policies on inclusivity, academic integrity, incompletes, sale of course materials, sexual misconduct, adverse weather, as well as student evaluation of instruction, and days of special concern/religious holiday statements. For these detailed policies of West Virginia University, please review:
<https://tlcommons.wvu.edu/syllabus-policies-and-statements>.

Class policies:

- Graphing or programmable calculators will never be allowed during any exams. Scientific calculators will be considered on an exam by exam basis. You may use any calculator to help you do the homework if you wish, but you should keep in mind that you may be required to solve similar problems without a calculator on the quizzes and exams.
- If you believe a problem on a homework assignment or midterm exam has been graded incorrectly, you must notify the instructor of your complaint within 7 days of the date the exam is handed back. If you are unable to retrieve your graded material at the time it is handed back, it is your responsibility to make arrangements with the instructor to retrieve the material at another time.

Special Notes:

- In ordinary circumstances, attendance of each lecture would be highly recommended. Regular attendance tends to lead to better understanding of the course material, which tends to lead to better performance on exams. However, the health and safety of everyone in our campus community depends largely on you making sure to stay away from campus if you feel symptoms of illness. If everything works the way it is supposed to work, lectures may be able to be streamed live online or recorded upon request, so that you can still attend class remotely. While remote viewing of lectures is not quite the same as active in-person engagement in class, it's still a good way of learning the material and staying involved in the class.
- WVU is committed to maintaining a safe learning environment for all students, faculty, and staff. Should campus operations change because of health concerns related to the COVID-19 pandemic, it is possible that this course will move to a fully online delivery format. If that occurs, students will be advised of technical and/or equipment requirements, including remote proctoring software.

In a face-to-face environment, our commitment to safety requires students, staff, and instructors to observe the social distancing and personal protective equipment (PPE) guidelines set by the University at all times. While in class, students will sit in assigned seats when applicable and wear the required PPE. Should a student forget to bring the required PPE, PPE will be available in the building for students to acquire. Students who fail to comply will be dismissed from the classroom for the class period and may be referred to the Office of Student Conduct for further sanctions.

If a student becomes sick or is required to quarantine during the semester, they should notify the instructor. The student should work with the instructor to develop a plan to receive the necessary course content, activities, and assessments to complete the course learning outcomes.