

Math 555 Spring 2020

Instructor:

Gerard Buskes, Hume Hall 105, 915-7425, email: mmbuskes@olemiss.edu.

Time and Location:

MW 2:30 - 3:45, Hume 109.

Office Hours:

MW 8:00-8:50 AM

Coursework Materials:

Spivak's Calculus book, 4th edition ISBN: 9780914098911

Goals

Advanced Calculus (Math 555 and Math 556) is a two-semester course which covers the logical foundations of calculus. Math 555 covers the basic properties of real numbers (chapters 1-2), the ϵ - δ definition for the limit of real-valued functions (chapters 3-5), properties of continuous functions and uniformly continuous functions (chapters 6-8), properties of differentiable functions (chapters 9-12), and properties of Riemann integrable functions including the Fundamental Theorem of Calculus (chapters 13-14).

This two-semester course is to train students to understand mathematical concepts and prove mathematical statements in precise mathematical language. We focus on proof problems rather than computation problems. Much of the course is connecting the skills that you have learned in an introduction to mathematics course like Math 305 towards a solid foundation under your calculus knowledge. This process starts with Math 555 and will continue in Math 556. Important for this class is not only that you understand all the material but also that you become independent in writing calculus proofs. The three main goals of the class: understand the inner workings of calculus, be able to write proofs in calculus, and start to become an independent thinker so that you can apply this new knowledge to calculus applications and more complicated calculations as well. In this class we will cover Chapters 1 through 14

Grading:

The grade will be calculated as follows

Midterm I	25%
Midterm 2	25%
Final Exam	40%
Homework	10%

90-100 A

80-89 B

70-79 C

60-69 D

<60 F

February 26, First Midterm (tentative)

Deadline for course withdrawals: March 2.

March 25, Second Midterm (tentative)

Final Exam: According to the Final Exam Schedule.

Attendance Policy

Students are entitled to two absences in MW classes. Any additional absences will lower the grade.

Attendance roll be taken via the attendance scanner in the class. The attendance scanner will scan between 2:15 and 2:35. The attendance record is kept solely via this attendance scanner.

Disability and Inclusion

Disability Access and Inclusion: The University of Mississippi is committed to the creation of inclusive learning environments for all students. If there are aspects of the instruction or design of this course that result in barriers to your full inclusion and participation, or to accurate assessment of your achievement, please contact the course instructor as soon as possible. Barriers may include, but are not necessarily limited to, timed exams and in-class assignments, difficulty with the acquisition of lecture content, inaccessible web content, and the use of non-captioned or non-transcribed video and audio files. If you are registered with SDS, you must log in to your Rebel Access portal at <https://sds.olemiss.edu/rebel-access-portal> to request approved accommodations. If you are NOT registered with SDS, you must complete the process to become registered. To begin that process, please visit our website at <https://sds.olemiss.edu/apply-for-services>. SDS will:

- Complete a comprehensive review to determine your eligibility for accommodations,
 - If approved, disseminate to your instructors a Faculty Notification Letter,
 - Facilitate the removal of barriers, and
 - Ensure you have equal access to the same opportunities for success that are available to all students.
- If you have questions, contact SDS at 662-915-7128 or sds@olemiss.edu.

Tentative Schedule

Tentative schedule:

- Preliminaries: 1 to 2 weeks.
- Chapters 5,6, and 7: 3 to 4 weeks.
- Chapters 8, 9, 10 and 11: 3 to 4 weeks.
- Chapters 12, 13, and 14: 4 weeks.