Math 555
Fall 2018

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

Time and Location:
TTh 8:00 - 9:15, Hume 106.

Office Hours:
MW 10:00-10:50 AM

Coursework Materials:
Spivak’s Calculus book.

Goals
The 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 (chapters1-2), the \( \varepsilon, \delta \) 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

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<td>Midterm 1</td>
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<td>Midterm 2</td>
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<td>Final Exam</td>
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<td>Homework</td>
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90-100 A
80-89 B
70-79 C
60-69 D
<60 F
Important Dates:

September 27, First Midterm (tentative)
   Deadline for course withdrawals: October 1.
November 22, Second Midterm (tentative)
Final Exam: December 4 at 8:00AM.

Attendance Policy

*Students are entitled to two absences in TTh 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 7:45 and 8:15. 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 approved through SDS, you must log in to your Rebel Access portal at `https://sds.olemiss.edu` to request approved accommodations. If you are NOT approved through SDS, you must contact Student Disability Services at 662-915-7128 so the office can: 1. determine your eligibility for accommodations, 2. disseminate to your instructors a Faculty Notification Letter, 3. facilitate the removal of barriers, and 4. ensure you have equal access to the same opportunities for success that are available to all students.

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.