

Syllabus Math 4350 Advanced Calculus I

Texas tech University

Course: Mathematics **4350**

Location/Time Tue, Thurs at 9:30-10:50 in in MATH 109

Descriptive: Title: Advanced Calculus I

Instructor: Jeffrey M. Lee Ph.D.

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Office Hours: 1:00:00-2:00 PM weekdays in my office; **MA 239**. Office hours are subject to possible change once the semester starts so check with the instructor.

Course Number: Mathematics **4350**

Descriptive Title: Advanced Calculus 1 / Introduction to Analysis

Prerequisites: MATH 2350 or 2450 and MATH 2360 and 3310

About the Course: This course covers sets, functions, vector fields, partial derivatives, power series, and theory of integration. Students are expected to present proofs. Math 4350 and 4351 are writing intensive courses.

Student Learning Outcomes: (4350) Students learn how to think and reason abstractly in the context of analysis of the real line, and learn how to write correct and clear mathematical arguments in this context. There will be a heavy emphasis on proofs, especially epsilon-delta proofs. Concepts and skills to be mastered by the students include but are not limited to: suprema, infima, limits of sequences, limits of functions, continuous functions, derivatives of functions on the line.

Text: *Introduction to Real Analysis* 4th edition by Bartle and Sherbert, published by Wiley

Course Outline (4350): Chapters 1 and Appendix B 3 days
(1.1 and 1.2 should be only briefly reviewed)

Chapter 2 7 days

Chapter 3 10 days

Chapter 4 5 days

Chapter 5 8 days

Chapter 6 (§1-2) 4 days

37 days

The above estimates are different for Tuesday-Thursday schedules: 1 day = 50 minutes class time.

Assessment: I will assess student progress and understanding using quizzes, verbal feedback, in class discussions, quizzes and examinations etc. The grading itself will be based solely on examinations, homework, quizzes and perhaps on attendance.

Examinations, Quizzes and Homework: There will be three midterm examinations each worth 100 points and a final exam worth a maximum of 200 points. Quizzes and Homework will combine to provide a possible 50 points (this can be very significant in the end!).

Grading: Grading is based on the percent of possible points accumulated.

Class Attendance and makeup: Class attendance **required** and will be randomly checked. No make-up exams or quizzes will be given unless the absence is due to a university sanctioned event, severe/life threatening illness or hospitalization, circumstances beyond the control of the student such as serious traffic accident. In each case proper documentation should be provided and advanced notice given to the instructor when such is possible.

Academic Integrity: Cheating on any exam will result in the student receiving 0% credit for the exam and the student will be reported to the department chairperson or college dean. Text messaging during an examination will automatically be considered cheating as will using a calculator in inappropriate ways.

In the Classroom: Please turn your cell phones off or to silent BEFORE entering the classroom and keep them out of sight at all times. I expect your full attention as I will give you mine when you are speaking. **Do not read the newspaper in class.** In short, pay full attention to what I am saying and writing and **ask questions as soon as something is unclear!**

Students with Disabilities: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided.