Syllabus

Course: MATH 4325 - 01 – Advanced Calculus – Fall 2009 – MWF 10:10 – 11:00  Lucas 118

Requirements: Introduction to Advanced Mathematics (MATH 3322) or permission of instructor

Instructor: W. Ted Mahavier; Lucas 200E; 880 2290 (office); 338 8908 (cell); ted.mahavier@lamar.edu

Office Hours: You may stop by my office anytime. MWF: 2:00 – 4:00

Course Materials: All materials will be provided by instructor. See also Honest Policy below.

Course Subject Outline: limit points, sequences, continuity, differentiability, and integration theory for functions of one real variable, culminating in the Fundamental Theorem of Calculus

Student Learning Outcomes: The two primary objectives for students in this course are (1) to master the material listed in the Course Subject Outline and (2) to develop their ability to create mathematics, to make conjectures, to test hypotheses, and to prove theorems. Additionally students will hone their mathematical writing skills, their ability to follow the proofs of other students, their abilities to question the work of other students, and their ability to communicate mathematics orally.

Attendance Policy: You are responsible for everything that goes on in class regardless of the reason for an absence. I reserve the right to drop any student for three unexcused absences.

Course Goals and Objectives: To actively involve the students in the process of learning the mathematics provided while developing their appreciation of the subject. Building on Math 3322, students will continue to learn proof techniques and principles of analysis. Make proper connections with the study of continuity, derivative, and integral that were begun in Math 2413 and Math 2414. Develop an understanding of the significance of the Completeness Axiom and its connections to the Heine Borel Theorem and the Bolzano- Weierstrass Theorem. Study the theory of continuity, derivative and integral in more general settings.

Grading: Your grade will be no less than the average of three grades: (1) your presentation grade, (2) your written work grade, and (3) the average of your midterm and final.

Honesty policy: Please see Student Conduct Code, Lamar University Student Handbook pages 67 – 80. You are not allowed to look on the web, to other texts, to other faculty, or to other students for help without my explicit permission. The sources of aid should be your intuition, hard work, the materials provided, and me.

Make-ups: Make-ups are given during the last week of classes. Contact me and set up a date for makeups.

Drop dates: See www.lamar.edu.

Services for Students With Disabilities: I’ll help you in any way that I can according to university policy. For additional information see pages 64 and 91 of the Student Handbook.

Note: I reserve the right to vary from this syllabus and probably will.