

Lamar University  
Department of Mathematics  
MATH 4325-01, Analysis I (3 hour course)  
Fall 2017 Syllabus  
MWF 11:30 – 12:25  
Lucas Engineering 112

**Instructor:** W. Ted Mahavier  
**Office:** Lucas 200 E  
**Email:** ted.mahavier@lamar.edu (preferred contact)  
**Phone:** 409-880-2290 (better to call or text my cell which I will provide in class)  
**Office Hours:** MWF 8 – 9, TR 8 – 9:30, by appointment, or anytime I am in the office  
**Text:** None – all materials supplied by instructor.  
**Blackboard:** I do not use blackboard.  
**Prerequisites:** Grade of C or better in MATH 3322 or permission of instructor

**Lectures/Discussions:** This course will be taught using inquiry-based learning where you work on the mathematics at home, present your work at the board and learn from the discussion that follows. The course notes have a section titled “To the Student” which contains detailed information on how to succeed at this course – read them and ask me questions. You absolutely *can* succeed at this course, although it will likely be, like anything of value, hard work.

**Grading Policies:** Your grade will be *no less* than  $.4 \times$  (presentation grade) +  $.2 \times$  (written homework grade) +  $.4 \times$  (average of your midterm and final grades). Scale: A>90>B>80>C>70>D>60>F

**Attendance Policy:** You are responsible for everything that goes on in class regardless of the reason for an absence. Because we are working as a team to master the material, absences hinder class progress. Therefore, I reserve the right to take one point off your final grade for each unexcused absence. If you must miss classes, you need to speak to me about it.

**Final Exam:** December 11<sup>th</sup> (last class period). All students must take the final, which is cumulative.

**Disclaimer:** I reserve the right to vary from this syllabus and probably will. While I have made a sincere effort to ensure that this syllabus is correct, changes may be required. I will announce any substantive changes during a regularly scheduled class. If you find an error or omission, please advise me at once so that the other members of the class may be advised.

**Catalog Description:** The real number system, Completeness Axiom, metric spaces, sequences, compactness, continuity, differentiation, Intermediate Value Theorem, Extreme Value Theorem, the Riemann integral, Fundamental Theorem of Calculus.

### **MATH 4325 Learning Outcomes:**

The two primary objectives for students in this course are (1) to master the material listed in the Catalog Description 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.

Upon completion of the course, students will:

1. Demonstrate continued improvement in proof techniques and principals of analysis, building on what they learned in Math 3322.
2. Describe proper connections with the study of continuity, derivative, and integral that were begun in Math 2413 and Math 2414.
3. Describe the significance of the Completeness Axiom and its connections to the Heine Borel Theorem and the Bolzano-Weierstrass Theorem.
4. Describe the theory of continuity, derivative and integral in more general settings.

## Important Information for Students

Lamar University expressly prohibits intimidation and harassment of students, faculty, staff, or applicants. <http://students.lamar.edu/academic-support/code-of-conduct.html>

**Drop Policy:** Please make note of the three dates indicated in this drop policy. Any drop will be your responsibility; I will not drop a student from the course.

**September 13, 2017:** (Census Date-Six Drop Rule does not apply) A student may drop or withdraw without consulting with the instructor. The Six Drop Rule does not apply to a drop before 5:00 PM.

**September 29, 2017:** (Six Drop Rule applies) A student may drop or withdraw from the course without academic penalty and receive a Q, however, the Six Drop Rule applies. The student will consult with the instructor and the Records Office to initiate a drop.

**November 3, 2017:** (Six Drop Rule applies) Last day to drop or withdraw with academic penalty; the student must be passing the course at the time of the requested drop in order to receive a Q. The drop form, including all required signatures, must arrive in the Records Office by no later than 4:00 PM. No drop is allowed after this date except in extreme extenuating circumstances. Any “late drop” must be approved by the instructor, department chair, college dean, and provost.

**Academic Integrity:** Students are expected to maintain complete honesty and integrity in their academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Students are specifically warned against all forms of cheating and plagiarism. The *Lamar University Student Handbook* clearly reads: “Any student found guilty of academic dishonesty in any phase of academic work will be subjected to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, plagiarism, collusion, and the abuse of source materials.” One aspect of the *Handbook’s* definition of cheating includes “purchasing or otherwise acquiring and submitting as one’s own work any research paper or other writing assignment prepared by an individual or firm.” Plagiarism is defined as “the appropriation and the unacknowledged incorporation of another’s work or ideas into one’s own and submitted for credit.” Faculty members in the College of arts and Sciences investigate all cases of suspected plagiarism. Any student who is found cheating in this course will receive a course grade of F. <http://students.lamar.edu/student-handbook.html>

**Accommodations through the Disability Resource Center:** Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at [409-880-8347](tel:409-880-8347) or [drc@lamar.edu](mailto:drc@lamar.edu) to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations. If you are registered with DRC and have a current letter requesting reasonable

accommodations, we encourage you to contact your instructor early in the semester to review how the accommodations will be applied in the course.

<http://www.lamar.edu/disability-resource-center/>

**Campus Closure:** In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University's website's homepage for instructions about continuing courses remotely. <http://lamar.edu>

**Emergency Procedures:** Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at:

<http://www.lamar.edu/about-lu/administration/risk-management/index.html>

Following are procedures for the first two:

**Severe Weather:**

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

**Violence/Active Shooter:**

- **CALL** - 8-3-1-1 from a campus phone (880-8311 from a cell phone). Note: Calling 9-1-1 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

**Course Evaluations:** You will have an opportunity to evaluate all aspects of this course in a formal process to be completed online near the end of the term. You will receive an email reminder through your LU account.