

ADVANCED CALCULUS I - MATH 4031

1. COURSE INFORMATION

- **Classroom:** 134 Lockett Hall
- **Time:** 2:30 - 3:20 pm M W F

2. INSTRUCTOR INFORMATION

- **Instructor:** Cristopher Hermosilla
- **Office:** 339 Lockett Hall
- **Office Hours:** by appointment
- **Phone:** 578-1655
- **email:** chermosilla@lsu.edu

3. COURSE DESCRIPTION

This three-hour course on Introduction to Analysis is designed to prepare students for graduate study of mathematics and its applications. The main goal of this course is to provide some fundamental tools for a deeper understanding of Calculus and Applied Mathematics.

The main topics to be covered along the course are:

- (1) Real numbers.
- (2) Continuous functions.
- (3) Riemann integration.

Each topic will be focus on algebraic properties, limits of sequences and some fundamental mathematical concepts such as *ordering*, *compactness*, *completeness* and *countability*.

The first two weeks of the course will be focused on basic elements of Logic and Set Theory.

As a 3-credit course, students are expected to have six hours of coursework outside of class per week, for a minimum time commitment of 9 hours per week.

4. TEXTBOOK

The course will be based on instructor's notes that will be published weekly on Moodle. You can use the text **Advanced Calculus: An Introduction to Linear Analysis** by L. Richardson as support, but the instructor-provided notes will cover the necessary for the course. Richardson's book can be downloaded, saved, and printed for use now or after the class from

www.lib.lsu.edu/ebooks

5. GRADED WORK

5.1. **Homework.** It will be assigned and published weekly on Moodle, each Friday. Homework will be collected at the beginning of each Friday's lesson. The homework grade will be the average **all** the scores, and it will count **20%** of your final grade. Each homework consists of 3 problems and it will follow the next score rule

Problem 1 (easy)	60%
Problem 2 (medium)	30%
Problem 3 (hard)	10%

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5.2. **Tests.** There will be 3 midterm in-class exams, each one of them covering one of the main topics of the course. Midterm in-class exams scores will be averaged to count **40%** of your final grades.

Date	Contents to be evaluated
Friday, February 19th	Real numbers
Friday, March 18th	Continuous functions
Friday, April 29th	Riemann integration

5.3. **The Final Exam.** The final exam will take place on Friday, May 6th from 5:30 to 7:30 at 134 Lockett Hall (regular classroom). The final comprehensive exam will count **40%** of your final grade.

5.4. **Final grade.** Your final grade will be calculated as follows:

Final Exam	40%
Midterm Exams	40%
Homework	20%

5.5. **Grading scale.** Any score equal or below 59.9 will be considered as F. This course will follow the +/- system, which will be as follows

A- 90-92.9	A 93-96.9	A+ 97-100
B- 80-82.9	B 83-86.9	B+ 87-89.9
C- 70-72.9	C 73-76.9	C+ 77-79.9
D- 60-62.9	D 63-66.9	D+ 67-69.9

6. POLICIES

6.1. **Attendance.** Attendance to classes is not mandatory but is, of course, highly recommended. Any missing exam or quiz will be automatically scored with 0 points, unless the student present a properly documented excuse for missing an assignment. The missed assignment must be made up within three days.

6.2. **Collaboration.** You may collaborate with others while doing homework or studying for tests. Nevertheless, work on in-class exams must be your own work with no assistance from anyone else. During an exam, attempts to look at other students' exams and the use of crib sheets or formula sheets will be considered to be a violation of the LSU Code of Student Conduct and will be reported to the Student Advocacy and Accountability Office.

6.3. **Punctuality.** You must arrive on time at classroom. It is highly recommended to arrive 5 minutes before the starting time. However, if you are late, please enter quietly and try not to disturb too much the instructor and other students.

6.4. **Electronic devices.** No electronic devices (such as calculators or smart-phones) are allowed in class or during graded work. However, you can use any technology available to help with homework. All cell phones must be turned off prior to class.

6.5. **Full credit on assignments.** In order to be assured full credit in homework, tests and exam grades, show all of your work in your answers, and provide clear and well written arguments.