Texas A&M University, Department of Mathematics, Fall 2016

MATH 409 (502) — Advanced Calculus I [*]

TR 9:35am-10:50am, Blocker Building, Room 121

Instructor: Simon Foucart, 608L Blocker Building, foucart@tamu.edu
Office hours: TWR 11:00am-11:30am and by appointment
Course web page: accessed via eCampus at `http://ecampus.tamu.edu/`
Textbook: *An Introduction to Analysis (4th edition)*, by William R. Wade

Course Objectives: This introduction to analysis focuses on precise reasoning in reading, understanding, and writing proofs of theorems. The topics covered include the axioms and the properties of the real number system; sequences of real numbers; continuity and uniform continuity of real functions; differentiation of real functions; and Riemann integration.

Exams: There are 2 in-class tests (midterms) scheduled for **Oct 4** (Tuesday) and **Nov 10** (Thursday). The final cumulative examination (final) is scheduled for **Dec 9** (Friday).

Homework: Homework is an integral part of the course. There will be problems assigned weekly, some of which will be graded. These problems will be collected at the beginning of class on the due date. Late homework will not be accepted. Homework questions are chosen to illustrate the concepts and techniques expected to be mastered — as such, notions introduced in homework can appear in exams. You are encouraged to come and see me during my office hours to obtain some help on particular questions, provided you made a genuine attempt to solve them.

Extra Help: In addition to office hours, you can receive free assistance via the department of mathematics, see `http://www.math.tamu.edu/courses/helpsessions.html`.

Grading: Grades are based on the work shown, not on what was intended or implied. Excessively sloppy, poorly justified and disorganized work cannot be given full credit, even if the correct answer appears. The final grade is assigned according to the following scheme:

• Homework   70 points

• Midterm 1   100 points

• Midterm 2   100 points

• Final   130 points

The point scale used to determine the final letter grade is

F: 0–199,   D: 200–239,   C: 240–279,   B: 280–319,   A: 320-400.

Make-ups will only be given in case of university excused absences or in exceptional circumstances (illness, injury, etc.,) which should be documented. My prior approval is necessary.

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[*]this syllabus is a general plan for the course; deviations announced in class may be necessary

Tentative schedule:

Week 1 (Aug 30 and Sep 1)	Sect. 1.1, 1.2, 1.3	Tuesday 30: first lecture
		Friday 2: last day for add/drop
Week 2 (Sep 6 and 8)	Sect. 1.4, 1.5	
Week 3 (Sep 13 and 15)	Sect. 1.6, 2.1	
Week 4 (Sep 20 and 22)	Sect. 2.2, 2.3	
Week 5 (Sep 27 and 29)	Sect. 2.4; Review	
Week 6 (Oct 4 and 6)	Sect. 3.1	Tuesday 4 : Midterm 1
Week 7 (Oct 11 and 13)	Sect. 3.2, 3.3	
Week 8 (Oct 18 and 20)	Sect. 3.4, 4.1	
Week 9 (Oct 25 and 27)	Sect. 4.2, 4.3	
Week 10 (Nov 1 and 3)	Sect. 4.4, 4.5	
Week 11 (Nov 8 and 10)	Review	Thursday 10: Midterm 2
Week 12 (Nov 15 and 17)	Sect. 5.1, 5.2	Friday 18: last day for Q-drop
Week 13 (Nov 22)	Sect. 5.3	Th. 24-F. 25: Thanksgiving holiday
Week 14 (Nov 29 and Dec 1)	5.4, 5.6	
Week 15 (Dec 6)	Review	Tuesday 6: last lecture
		Friday 9, 12:30pm-2:30pm: Final

Attendance Policy: Attendance is not compulsory, but regular attendance is expected — it is in fact essential if you want to do well in the course. Classes to be missed due to religious holidays must be communicated to me during the first week. You are required to arrive on time and stay the length of the class. If you do not attend a class, you are responsible for any announcement made, any material covered, and any additional topic introduced during this class. Office hours cannot be used for this purpose.

Electronic Etiquette: Laptops and tablets are not allowed (unless it is demonstrated that they are used for note-taking only). Cell phones must absolutely be put on silent mode, left closed, and put away. If you have a family emergency and need to take a call during class, I shall be notified in advance so that a special arrangement can be made.

Academic Honesty: *"An Aggie does not lie, cheat, or steal or tolerate those who do."* See `http://aggiehonor.tamu.edu` for more information.

Americans with Disabilities: The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit `http://disability.tamu.edu`.