

Analysis I

MAA 5228 - Fall 2017

Instructor: Piotr Mikusinski (Mee-koo-sheen-ski)

Time/location: Mondays and Wednesdays, 12:30-1:50 pm, MSB 405

Office hours: Mondays and Wednesdays 9:00-11:00 am, Tuesdays 10:00-11:00 am, MSB 312

Email: Piotr.Mikusinski@ucf.edu

Textbook: Robert S. Strichartz, *The Way of Analysis*, Revised edition, Jones and Bartlett, 2000.

Course description: This is an introductory analysis course. Topics include set theory (basic concepts and notation), number systems (construction of the real numbers), sequences and series (limits of sequences and limit laws, infinite series, tests for convergence), continuous functions (definition, properties of continuous functions, extreme value theorem, intermediate value theorem, uniform continuity), differentiation (definition and properties, derivatives in connection with local extreme values and monotonicity, inverse function theorem, l'Hôpital's rule), Riemann integration (upper and lower Riemann integrals, Riemann integrals and properties, fundamental theorem of calculus)

It is mostly a proof course. A certain degree of mathematical maturity is expected. Courses like Logic and Proof or Linear Algebra would be helpful.

Course goal: Familiarity with basic ideas and methods of proof in mathematical analysis.

Prerequisites: MAS 3106 or C.I.

Examinations: **Midterm Exam:** October 11 (Wed), 12:30-1:50 pm
Final Exam: December 4 (Mon), 1:00-3:50 pm

Homework: Some homework will be graded weekly.

Quizzes: Short quizzes will be given almost every class.

Grading: Your grade will be based on the following items:

- Graded homework: 15%
- Quizzes: 5%
- Midterm exam: 30%
- Final exam: 50%

Make-up policy: Make-up examinations will only be given upon prior arrangement with the instructor in those cases that meet the criteria established in University policy for those students who are absent while representing the University.

Attendance: Attendance is required.

Important Dates:

- Classes begin: August 21 (Mon)
- Drop/Swap Deadline on myUCF: August 24, 11:59 pm (Thu)
- Add Deadline on myUCF: August 25, 11:59 pm (Fri)
- Labor Day: September 4 (Mon)
- Midterm Exam: October 11 (Wed)
- Withdrawal deadline: October 30, 11:59 pm (Mon)
- Veterans Day: November 10 (Fri)
- Thanksgiving Break: November 23-25
- Final Exam: December 4, 1:00-3:50 pm (Mon)

Religious policy: It is the practice of the University of Central Florida to reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. A student who desires to observe a religious holy day of his or her religious faith must notify his/her instructor in writing at the beginning of the term (prior to the end of the add/drop period) to be excused from classes to observe the religious holy day. (Please note that documentation will be requested.)

Financial aid: All faculty are required to document students' academic activity at the beginning of each course. This academic activity must be completed by the end of the first week of classes or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid.

Disability accommodations: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Students who need accommodations must be registered with Student Accessibility Services, Ferrell Commons Room 185, before requesting accommodations from the professor. Their website is <http://sas.sdes.ucf.edu/>.

Note: We will be guided by the university ethics policy, academic integrity statement and disability access statement. All violation of academic policy will be brought to the attention of the student conduct board.

Information in this syllabus is subject to change. All changes will be announced in class.