

Math 525a - Real analysis

3 units, Fall 2017, MWF 9:00-9:50am in KAP 140

Contact information

- **Instructor:** Christian Zillinger
 - **Office hours:** W 12-3 or by appointment
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- **Grader:** Hyun-Jung Kim
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Course description

In this course we will learn about measure theory and integration. Historically, this area of mathematics arose from generalizing the notion of lengths, areas and volumes and in conjunction with the associated integration theory. The course will take a general approach to measures and discuss measurability, integration, integrability, convergence and densities. Time permitting, we might discuss further topics such as probability spaces, Lebesgue spaces or functions of bounded variation.

Textbook

Folland, Real Analysis.

Blackboard

Materials such as **homework assignments** or **results** will be posted on blackboard, <http://blackboard.usc.edu> . You should **check blackboard regularly**.

Description and Assessment of Assignments

Homework sets will be made available and are due about every 7 to 10 days.

Discussion and collaboration is strongly encouraged and you are allowed to hand homework in groups of up to two students. In the latter case, both group members should be able to explain all parts of their submitted solutions.

There will be one **midterm** in-class on **Wednesday, October 11** and one **final exam** towards the end of the semester.

Grading breakdown

Assignment	% of Grade
Homework	30%
Midterm	30%
Final Exam	40%
Total	100%

Assignment Submission Policy

Problem sets will be made available on blackboard and are due at the beginning of the lecture on Friday of the following week. Late submissions will not be accepted.

If you cannot hand in the homework in class, you may send it via email or put it in my mailbox (before the beginning of the lecture!).

Additional Policies

There will be no make-ups for homeworks and late submissions will not be accepted and count as zero points. However, your two lowest homework scores will be automatically dropped.

In case of scheduling conflicts for the exams or emergencies, you should contact me as early as possible (at least two weeks; for sudden sickness as early as you are able).

Getting help

If you have any feedback, problems, questions or want to chat, please do not hesitate to drop by at my office.

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section

11, Behavior Violating University Standards, <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions>. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity <http://equity.usc.edu> or to the Department of Public Safety <http://adminopsnet.usc.edu/department/department-public-safety>. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <http://sarc.usc.edu> describes reporting options and other resources.

Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs http://sait.usc.edu/academicssupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information <http://emergency.usc.edu> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.