

# MATH 525B

Spring 2022

---

<b>Instructor:</b>	Tommaso Cremaschi	<b>Lecture:</b>	MWF 9–9:50 AM
<b>Email:</b>	cremasch@usc.edu	<b>Place:</b>	KAP 148
<b>TA:</b>	TBA		
<b>Email:</b>	TBA		

---

**Prerequisite:** Math 525a.

**Course description:** From Folland we will cover roughly the following material: Baire Category Theorem, Section 5.3, Topology, excerpts from Ch. 4, Topological vector spaces, Hilbert space, 5.4-5.5  $L^p$  spaces, Ch. 6, Radon measures, Riesz Representation Thm., 7.1. We will then start covering material from Treves chapter: 3, 4, 6, 7, 8, 9, 10, 11,12, 13, 16, 17 and 18.

**Office hours:** TBA.

**Blackboard:** All relevant course information, including homework assignments and grades, will be posted on Blackboard.

**Textbook:** Real Analysis: Modern Techniques and their Applications (2nd ed.) by G. B. Folland and Topological Vector Spaces, Distributions and Kernels by Treves. You can access the latter book electronically from the USC library system.

**Grades:** Your grade will be computed using the following weights: homework (35%), midterm (25%), and final (40%). Homework will be assigned every 7-10 days. Late homework might be accepted with a penalty.

Basis for grading homework and exams:

For full credit, you must present a logically valid proof. If your proof is incorrect or incomplete, you may receive partial credit to the extent that your attempt reflects:

- Plausible choices of theorems, arguments, and proof techniques to try, for the type of proof sought;
- An understanding of what needs to be proved. This means knowing what would be sufficient to show, or how the hypotheses are relevant or useful in progressing toward the conclusion (e.g. what theorems they enable one to use);
- A proof that is correct in what it proves, even if that differs a little from what is asked to be proved.

**Missed exams:** There will be no makeup exams. In exceptional cases, with a written excuse, if you miss the midterm I will base your grade on the final plus homework.

**Academic honesty:** See §B.11 in the USC Student Handbook for a list of situations to avoid and §B.A for a list of consequences. Lack of knowledge of the academic honesty policy is not an adequate defense for a violation.

**Disability accommodations:** If you require accommodations for a disability, you are required to register with Disability Services and Programs (DSP) each semester. You must obtain a letter of verification for approved accommodations from DSP. Please make sure that this letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 AM–5:00 PM, M–F. Their phone is (213) 740-8216, and their email is [ability@usc.edu](mailto:ability@usc.edu).

**Disclaimer:** This syllabus is not a contract, and I reserve the right to modify it.