

Functional Analysis (II)- Fall 2018

Instructor: Bentuo Zheng

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Required Text: *A Course in Functional Analysis*, 2e, by John B. Conway.

Reference Text: *Functional Analysis and Infinite-Dimensional Geometry*, by Marian Fabian, Petr Habala, Petr Hajek, Vicente Montesinos Santalucia, Jan Pelant and Vaclav Zizler.

Catalog Title and Description: (CREDIT 3.0) *Chapter 6-9:* Linear operators on a Banach space: adjoint operators, the Banach-Stone Theorem, compact operators, weakly compact operators; Spectral Theory: ideals and quotients, the Riesz functional calculus, the spectrum of a linear operator, Abelian Banach algebras; C^* -algebras: Abelian C^* -algebras, positive elements in a C^* -algebra, representations of C^* -algebras, the Gelfand-Naimark-Segal construction; Normal operators on Hilbert space: spectral measures, star-cyclic normal operators, commuting operators, applications of the spectral theorem.

Grading Policy: Grades will be calculated according to the following percentages:

Homework	60%	A = 85-100%
Two Take Home Exams	40%	B = 75-84%
		C = 65-74%
		D = 55-64%
		F = below 55%

Make-up Policy: No make-ups will be given without written evidence of an official University excused absence. (See University Student Rules.) If no such notice is given, the rights to a make-up are forfeited. In addition (and also in accordance with University Student Rules), a written excuse must be presented upon return to class. Specifically, in the case of illness or injury, students are required to obtain a confirmation note from a health care professional affirming date and time of a medical office visit regarding the illness or injury.

Exams: There will be two take home exams which will be announced in class.

Graded Homework: Homework will be posted every Thursday on my webpage. You can discuss problems with your classmates (only in this section), and then write them down by yourself. **No late homework assignments will be accepted without written verification of a University excused absence.**

Attendance: I STRONGLY suggest that you make every attempt to not miss a single day of lecture. Falling behind in this course can be very detrimental to your grade.