

MATH 175: Elementary Functional Analysis
Winter 2019

Course instructor: Yiran Wang

- *Office:* 380-384C
- *Email:* yrw@stanford.edu
- *Office Hours:* M, F: 2:30pm-4pm.

Course assistant: Francisco Arana Herrera

- *Office:* 380-381F
- *Email:* farana@stanford.edu
- *Office Hours:* TBD

Lecture: M, W, F 1:30pm–2:20pm at 260-002.

Prerequisite: Math 115, 171 or equivalent.

Course Description: This is an introductory course on functional analysis. We will mostly focus on Hilbert space theory. Topics include linear operators on Hilbert spaces, spectral theory for compact self-adjoint operators, applications to partial differential equations.

Textbook: *An introduction to Hilbert spaces* by N. Young.

Course website: <http://web.stanford.edu/~yrw/Math175/math175.html>

Course announcements, homework, solutions will be posted on the course website.

Grading: Your grade will be based on the combined scores from one midterm, one final, and weekly homework. Grade records will be posted on Canvas. The weights are:

Homework:	25%
Midterm:	30%
Final:	45%
Total:	100%

Homework: Homework will be posted on the course webpage and be due on the in dedicated day (usually on Wednesday). No late homework will be accepted. If you can't make it to lecture you may put your homework in my mailbox before the end of lecture; be sure to send me an email so I will look for it. The lowest score will be dropped to accommodate exceptional situations such as a serious illness.

You are allowed to discuss the homework with others in the class, but you must write up your homework solution by yourself. You should understand the solution, and be able to reproduce it yourself. This ensures that, apart from satisfying a requirement for this class, you can solve the similar problems that are likely to arise on the exams.

Exams: The midterm exam will be on Monday, February 11th, in class. The final exam is scheduled on Wednesday, March 20th from 3:30pm to 6:30pm. The location will be announced later.