Instructor

- Name: Pavlos Motakis
- Office: 257C Altgelt Hall
- Email: pmotakis@illinois.edu
- Webpage: https://faculty.math.illinois.edu/~pmotakis/
- Office hours: Wednesday 5:00 pm to 6:00 pm. Additional hours may be requested via email or personally in class.

Lectures

- Monday, Wednesday, and Friday, 2:00 pm to 2:50 am at Altgeld Hall 241.

Description

- Title: Banach Spaces
- Webpage: https://faculty.math.illinois.edu/~pmotakis/teaching/Fall2019/Math547.xhtml.
- Course description: The course in focused on the theory of Schauder bases in Banach spaces and properties of $\ell_p$ and $L_p$ spaces.
- Textbook: Topics in Banach space Theory, Fernando Albiac and Nigel Kalton.
- Access to an electronic version of the textbook is available for free via the UIUC library at: https://link-springer-com.proxy2.library.illinois.edu/book/10.1007%2F978-3-319-31557-7
- **Tentative** course material:
  - Chapter 1: Bases and Basic sequences.
  - Chapter 2: The Classical Sequence Spaces.
  - Chapter 3: Special Types of Bases.
  - Chapter 6: The $L_p$-Spaces, for $1 \leq p < \infty$.
  - If time permits it we may also cover:
    - Chapter 10: $\ell_p$ subspaces of Banach spaces.
    - Chapter 11: Finite representability of $\ell_p$ spaces.

Homework

There will be five or six homework assignments. They will be posted every second Friday and they will be due after two weeks on Friday in class. They will mostly be comprised of problems from the textbook.
Presentation

Students are required to give a brief presentation at the end of the semester. The presentation must be based on a research article relevant to the course. The instructor will recommend such articles. Students may also choose other articles that must be approved by the instructor for presentation.

Grading

The final grade of the course will be based on:

- **Homework**: 75%.
- **Presentation**: 25%.

All scores will be available online on Learn@Illinois (Moodle). At the end of the semester letter grades will be assigned according to the standard scheme, i.e., 90% guarantees an A, 80% guarantees a B, etc..

Missed homework

- Late homework will only be accepted by students with a valid excuse such us illness, out-of-town job interviews, and participation in out-of-town conferences. You must inform the instructor as soon as you know that you are going to miss a deadline. Appropriate documentation will be required to prove the validity of the excuse.

The syllabus is subject to change at the instructor’s discretion.