

Functional Analysis - Math 421/510

Spring 2007

- **Instructor:** *Malabika Pramanik*
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 - **Office hours:** *Monday and Wednesday 1:00 - 2:00 PM, or by appointment.*
 - **Web page :** The course website is
<http://www.math.ubc.ca/~malabika/teaching/ubc/spring07/math421-510/index.html>
- Homework assignments and all relevant course information (such as changes to office hours if any, or solutions to homework problems if needed) will be posted here.
- **Text :** *A Course in Functional Analysis* by J. B. Conway.
 - **Course outline :** The core topics of this course are
 - Banach spaces
 - Operator spaces; strong, weak, and weak* topologies
 - Hilbert spaces and their geometry
 - Operators on Hilbert spaces: self-adjoint, bounded, compact
 - Hahn-Banach Theorem
 - Open Mapping Theorem
 - Closed Graph Theorem
 - Spectral Theory for Bounded Operators
 - Fredholm Theory for Bounded Operators

Time permitting, we will also consider other special topics.

- **Lectures :** Monday, Wednesday, Friday 9-10 am in Math 103.
- **Grading Policy :** Homework problems will be posted regularly on the course website. In addition, there will be a takehome midterm and a takehome final. Your total score will be a weighted average of your homework, midterm and final scores, with the breakdown as follows.

Homework	50%
Midterm	25%
Final exam	25%