Instructor: Kenneth Davidson  
Office: MC 5324  

TA: Boyu Li  
Office: MC 5418  

Class meets: TΘ 10:00–11:20 in B2-350  

Textbook  

Alternate references  
• Peter Lax, *Functional Analysis*  
• Gert Pedersen, *Analysis Now*  
• Laurent Marcoux, *Notes for PM753 and PM810*  

Grading  
• Undergraduates: Assignments 40%, Final Exam 60%.  
• Graduate students: Assignments 40%, Talk 10%, Final Exam 50%.  

Outline  
• Point set topology (brief introduction)  
• Banach spaces (Hahn-Banach theorem, Open mapping theorem)  
• Duality (weak topologies, Banach-Alaoglu theorem, Krein-Milman theorem)  
• Bounded operators  
• Compact operators and Fredholm theory  
• Spectral theorem for compact normal operators on Hilbert space