Math 113: Analysis

ORC syllabus

The topic of this course alternates between year. In odd years, it provides an introduction to functional analysis covering the basics of Banach spaces, Hilbert spaces, and Banach algebras, with additional topics covered at the instructor's discretion. In even years, it will cover specialized topics such as complex analysis, abelian harmonic analysis, or unbounded operators.

References.

[P] G. K. Pedersen, *Analysis now*, Springer-Verlag, 1989.

[F] G. B. Folland, *Real analysis*, 2nd ed., Wiley, 2009.

***Odd years*: Functional analysis.** [F, Chapters 5–6] or [P, Chapters 1–3]

1. Banach spaces.

2. Hilbert spaces.

3. Banach algebras.

4. Spectral theory.

***Even years*: Varying topics.**

Possible subjects: complex analysis, abelian harmonic analysis, or differential (unbounded) operators.