Math 511: Functional Analysis, Autumn 2015

Instructor: Brian Sittinger
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Office Hours: MW 12:15-1:15 PM, and by appointment
Class Times: M 6:00-8:50 PM
Class Location: Sierra Hall 2422

Prerequisites: Admission to the Computer Science or Mathematics Graduate program. (Pertinent courses: Math 240 and Math 351, or equivalent coursework.)

Text: Introductory Functional Analysis with Applications by Erwin Kreyszig.

Course Website: http://faculty.csuci.edu/brian.sittinger/math511page.html
This may be also directly accessed through CI Learn.

Course Description from the Course Catalog: Topics include metric spaces, function spaces, normed vector spaces, linear operators, Banach spaces, Hilbert space, spectral theory, and fundamental theorems in functional analysis. Applications in various fields include computer science, bioinformatics, and statistical analysis.

Learning Outcomes: Through this course, students will be able to

- Understand the theoretical basis of function spaces and normed spaces.
- Work with metric and function spaces, linear operators, and spectral theory.
- Analyze properties of various function spaces.
- Apply functional analysis to various fields.
- Express concepts and techniques of in oral and written form by constructing various proofs.

Grading: Grades will be determined as follows:

- Homework and Quizzes (25%)
- Exams (25% apiece)
- Final Exam (25%)
**Homework and Quizzes:** I will assign homework daily to be turned in on every Monday (unless otherwise stated) at the beginning of lecture. The latest you can turn in any assignment is two days after the official due date, no exceptions! Make sure that your presentations are well-organised. If you use more than one sheet of paper, please write your name at the top of each sheet, and be sure to staple them all together. This will make my job to grade them much easier. Quizzes will be given every week or two concerning definitions and examples of the course material.

**Exams:** The two exams will be given in class around the sixth and twelfth weeks of lecture. The final exam will take place on Monday 14 December at 7 PM. Unless you have a genuine doctor’s note, you have to take the exams when they are given.

**Academic Honesty:** Cheating and plagiarism will not be tolerated in this class. For information on the University’s policy, please read the University Catalog (“Policies and Regulations” section).

**Disability Statement:** Cal State Channel Islands is committed to equal educational opportunities for qualified students with disabilities in compliance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. The mission of Disability Accommodation Services is to assist students with disabilities to realize their academic and personal potential. Students with physical, learning, or other disabilities are encouraged to contact the Disability Accommodation Services office at (805) 437-8510 for personal assistance and accommodations.

**Disclaimer Statement:** Information contained within this syllabus, other than that mandated by the University, may be subject to change with advance notice, as deemed appropriate by the instructor.