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Topics in Functional Analysis (MAA7526)

Fall 2015: Section 1H65, MWF 6th hour, Little Hall, room 237

Email: mjury@ufl.edu

Office: Little Hall 484

Office Hours: TBA

Course Content

Prerequisites: MAA 6616-7 (Measure Theory and Functional Analysis) or consent of the instructor.

Topics: This course will serve as an introduction to the theory of linear operators on Hilbert space. After a brief review of elementary Banach space theory, we will discuss Banach algebras, weak topologies, convexity, operators on Hilbert space, compact operators and Fredholm theory, the Spectral Theorem, and the basics of C^* -algebras and von Neumann algebras. (Some of this material may be continued into the second semester.) After this there are many options for further topics, which will be chosen based on time and interest; these may include positive maps and dilation theory, unbounded operators, operator spaces, etc.

Texts: No text is required. During the first semester I will be loosely following [Analysis Now](#) by Gert K. Pedersen and [A Course in Functional Analysis](#) by John B. Conway. Pedersen's book is more terse, while Conway is more verbose; I will try to steer between them. I will suggest further references for certain topics as the course proceeds.

In addition I will suggest homework problems and exercises which will be posted here and occasionally discussed in lecture.

Grading policies

Grading will be based on attendance and an in-class presentation (on a topic of your choice). Presentations will occur near the end of the term and the schedule will be posted here once it is finalized.

Additional Information:

Grades.

Grading will be in accord with the UF policy stated at

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Academic Honesty

The course will be conducted in accordance with the University honor code and academic honesty policy, which can be found in the

[student guide](#)

Accommodation for students with disabilities.

"Students with disabilities requesting accommodations should first register with the Disability Resource Center(352-392-8565,

<https://www.dso.ufl.edu/drc/>

) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester."

Online Evaluations.

"Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at

<https://evaluations.ufl.edu>

. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>."

Contact information for the Counseling and Wellness Center.

392-1575 <http://www.counseling.ufl.edu/cwc/Default.aspx>

