MATH 366 - SPRING 2010

Instructor: Professor Jesse Peterson
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Office: SC 1414
Office Hours:
Tuesday 2:35pm-4:00pm
Thursday 2:35pm-4:00pm
Or by appointment

Book:
An Introduction to Operator Algebras by Kehe Zhu
ISBN: 0849378753

Website:
There is a website for the course which is accessible from www.math.vanderbilt.edu/~peters10/

Description:
This will be an introductory course to the theory of Operator Algebras with emphasis on C^* and von Neumann algebras. Topics covered in this course will include:
-General C^*-algebras.
-Commutative C^*-algebras.
-The GNS-construction.
-Completely positive maps.
-General von Neumann algebras.
-The strong and weak topologies.
-The Double Commutant Theorem.
-Kaplansky Density Theorem.
-Abelian von Neumann algebras.
-Equivalence of projections.
-Type decomposition.
-Examples.
-Additional topics as time permits.

The course should be accessible to anyone who is familiar with basic functional analysis (Math 362A). Homework will be assigned and students who attend will be required to give a presentation during the semester.

Grades:
Grades will be based on class attendance, the homework, and the presentation.