

MATH 8120 - OPERATOR ALGEBRAS - SPRING 2020

Instructor: Jesse Peterson

e-mail: jesse.d.peterson@vanderbilt.edu

Office: SC 1414

Office Hours:

Mondays 3:00pm - 3:50pm

Wednesdays 3:00pm - 3:50pm

Fridays 3:00pm - 3:50pm

Or by appointment

Prerequisites: Courses in real and functional analysis: Math 6100/6101 and Math 7120.

Course resources: Course notes will be provided.

Description: Banach algebras. The Gelfand transform. C^* -algebras and von Neumann algebras. Positivity. States. The Gelfand-Naimark-Segal construction. $*$ -representations of C^* -algebras. Von Neumann's bicommutant theorem. Kaplansky's density theorem. Comparison theory of projections. Examples and applications.

Grades: Grades will be based on class attendance/participation and homework assignments.

Academic integrity: You will all be held to the standards set forth in the Student Handbook.