MAT 598: C*-Algebras

Spring 2024

Instructor: S. Kaliszewski   kaliszewski@asu.edu
Class #: 33049
Schedule: T Th 1:30–2:45pm
Location: Tempe – Main Campus

Course Description

This course is an introduction to C^*-algebras. Topics covered will include: spectrum, Gelfand transform, ideals and representations, states and the GNS construction, and the Gelfand-Naimark theorem. This is roughly the content of the first three chapters of Murphy's book *C*-Algebras and Operator Theory*, although that may not be the text we end up using. Time permitting, we can address advanced topics of interest to the class, like *K*-theory, Hilbert C^*-modules, group C^*-algebras, or crossed products.

The course is intended for graduate students in mathematics, and will assume familiarity with real analysis, metric spaces, and linear algebra at the level of MAT 472 (Intermediate Real Analysis) and MAT 442 (Advanced Linear Algebra). Exposure to point-set topology, measure theory, and elementary functional analysis will be an advantage, but not a requirement; we will discuss background material as necessary in order to accommodate the needs of the class. Advanced undergraduates and graduate students in other fields are also welcome, with instructor approval.