MA 598x: Composition Operators on Spaces of Analytic Functions
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Time: TBA
Prerequisite: MA 530, (MA 546 desirable, but not required)
Description: There are many examples of Banach and Hilbert spaces of analytic functions on the unit disk or the unit ball in complex N-space. For a fixed analytic map of the disk or the ball into itself, composition of functions in the space with this map is a linear transformation on the space, called a composition operator. The overall goal of study in this area is to connect the properties of this transformation as a linear operator with the geometric and analytic properties of the underlying map of the disk or ball.

This course will present:

1) fundamentals from complex analysis such as results on fixed points, iteration, and behavior at the boundary
2) results concerning Banach and Hilbert spaces of analytic functions
3) fundamentals from operator theory important for this area
4) basic results on boundedness, compactness, and spectra of composition operators.

Text: Cowen and MacCluer *Composition Operators on Spaces of Analytic Functions*