Math 123
An Introduction to C^*-algebras
SPRING 2011

Meets: MWF 10:00–11:05 Instructor: Dana P. Williams
Room: Kemeny 120 `http://math.dartmouth.edu/~m123s11`
Text (Optional): *C^*-algebras and Operator Theory* by Gerard Murphy

This course is meant to be a gentle introduction to the theory of operator algebras. We will start with a review of spectral theory followed by the basics of C^*-theory. After that, the content will depend on the participant's interests.

We will loosely follow Murphy's text [3] — mostly because it is the only reasonable book on the subject in print. I will also draw on my own books [5, 6] as well as Arveson's wonderful little book [1]. The class should be small enough that we can share these texts as "reserve" texts in the grad lounge in Kemeny.

Some preparation in analysis is essential, but anyone who has taken our functional analysis course, Math 113, should be very well prepared. We will try to develop most of the background we need, but it would be good to have either Conway's book [2] or Pedersen's Book [4] around.

Please come chat with me, or email me, if you're interested, or might be interested, in the course. *I'd like to get an idea of who'll be in the course.*

References

[1] William Arveson, *An Invitation to C^*-algebras*, Springer-Verlag, New York, 1976. Graduate Texts in Mathematics, No. 39.

[2] John B. Conway, *A course in functional analysis*, Graduate texts in mathematics, vol. 96, Springer-Verlag, New York, 1985.

[3] Gerard J. Murphy, *C^*-algebras and operator theory*, Academic Press Inc., Boston, MA, 1990.

[4] Gert K. Pedersen, *Analysis now*, Graduate Texts in Mathematics, vol. 118, Springer-Verlag, New York, 1989.

[5] Iain Raeburn and Dana P. Williams, *Morita equivalence and continuous-trace C^*-algebras*, Mathematical Surveys and Monographs, vol. 60, American Mathematical Society, Providence, RI, 1998.

[6] Dana P. Williams, *Crossed products of C^*-algebras*, Mathematical Surveys and Monographs, vol. 134, American Mathematical Society, Providence, RI, 2007.