

Math 662: Seminar in Algebra
Homological Algebra
Fall 2019

Instructor: [Sarah Witherspoon](#)

Email: sjw AT math.tamu.edu

Office and hours: TWR 5:15-6:15 pm in Blocker 513

Course web address: http://www.math.tamu.edu/~sjw/math662_2019.html

Class meetings: WF 8:15-10:00 am, in Blocker 605AX

Optional Texts: *An Introduction to Homological Algebra*, C. A. Weibel, Cambridge University Press, 1994.

A Course in Homological Algebra, P. J. Hilton and U. Stammbach, Springer-Verlag, 1971.

Basic Homological Algebra, M. S. Osborne, Springer, 2000.

An Introduction to Homological Algebra, J. J. Rotman, Springer, 2009.

Course requirements and grades

Course prerequisite: Math 654 or equivalent.

Course grades will be based on homework and a presentation. Grades are assigned as follows based on homework and presentation average: A (80-100%), B(60-79%), C(40-59%), D(20-39%), F(0-19%).

Course description

3.0 credits. Selected topics in algebra. May be repeated for credit.

This course will cover the basics of homological algebra, in preparation for more advanced work in algebra and related fields. We will work through homological algebra topics taken from the the optional textbooks and other sources. Specifically, this includes chain complexes, resolutions, Ext, Tor, categories, derived functors, spectral sequences, and further topics as time permits.

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