

## MATH 800, COMMUTATIVE ALGEBRA, FALL 2013

This course is a first graduate course in commutative algebra. We will discuss modules, affine algebras, localization, transcendence degree, chain conditions, Krull dimension, and applications to other parts of mathematics as time permits. We will cover a substantial portion of the text with the notable exception that we will not discuss Galois theory (which is covered by math 740).

This course is meant to fulfill the role of math 817 in providing a graduate level abstract algebra course, while also covering different and useful material for those who have taken 817 in its previous noncommutative incarnation. In particular it is meant to be accessible to new graduate students who have done undergrad abstract algebra as well as appropriate for students who have taken 817

### WHO, WHEN, AND WHERE

Lectures: 2:30-4:20 Wednesdays and Fridays.

Instructor: Karen Yeats, [karen\\_yeats@sfu.ca](mailto:karen_yeats@sfu.ca)

Office Hours: TBA

Website: <http://people.math.sfu.ca/~kyeats/teaching/math800.html>

Textbook: “Graduate Algebra: Commutative View” by Louis Rowen, Graduate Studies in Mathematics, **73**, 2006. ISBN-13: 978-0-8218-0570-1

Please ask questions, in lecture, office hours, by email, or any time you see me around.

### EVALUATION

The grade breakdown is

40% assignments

10% scribing

50% final project (written project and presentation)

Assignments will be approximately biweekly, and must be handed in, in class, on the day they're due. If the due date will ever be a problem for any reason you **must** contact me before the due date (email is fine). There are **no retroactive lates**.

The class will produce typed notes of the lectures which will be posted on the website. This scribing duty will rotate.

The written project should be approximately 6-10 pages and will be graded on clarity, presentation, and language; and mathematical content and correctness. It is due on **the last day of class**. **Cite your sources and don't copy**. They will be posted on the course website.

The project presentation will be graded on clarity and interest, communication of core ideas, and mathematical correctness. The presentation should be 20 minutes with a few minutes of questions following. You may use any medium I can readily provide. The deadline is **the last day of class**, but note that I can't fit everyone into the last day.

## RESPONSIBILITY

Difficulties may crop up over the course of the semester. Part of being an adult is to not wait until it is too late to solve them. Please contact me as soon as possible if a problem seems to be brewing.

It is also your responsibility to be aware of the university policies concerning academic dishonesty. In particular, you must credit any sources you use whether animate or inanimate and hand in your own work. The **minimum penalty** for dishonesty is 0 on that piece of work (eg midterm, assignment, etc.). Stronger action may be taken. You may work together on assignments but you must hand in work which you did yourself and which you can explain and justify if asked; credit what help you receive.