

Abstract algebra, Math 552,
Mondays and Thursdays from 12-1:20 in Hill 425. Office Hours TBD.

Professor: Angela Gibney

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Office hours are Wednesdays from 9 am to 10 am, in HLL 230, and by appointment.

Course topics: Continuing last semester's topics, I will cover: Field Theory (Field extensions: finite, separable, normal, algebraic and transcendental. Existence of algebraic closure. Galois theory. Finite fields. Hilbert theorem 90); Commutative algebra (Local rings and Nakayama lemma, Integral extensions, Krull dimension, Noether normalization lemma, Hilbert Nullstellensatz, localization. Prime ideal spectrum and Zariski topology, Algebraic sets and rings of regular functions. Discrete valuation rings and Dedekind domains), and Modules (Tensor product, flatness, local properties of modules, exterior and symmetric powers. Graded rings and modules, Hilbert functions and polynomials).

If there is time we will also do a little bit of algebraic geometry.

Text (in the book store): I'll use Jacobson, (Basic Algebra), as well as, Artin (Algebra), and Dummit and Foote (Abstract Algebra).

Lectures	date	Homework Problems
1	(01/24)	read about Field extensions
2, 3	(01/28, 01/31)	
4, 5	(02/04, 02/07)	
6, 7	(02/11, 02/14)	
8, 9	(02/18, 02/21)	
10, 11	(02/25, 02/28)	
12, 13	(03/04, 03/07)	
14,15	(03/11, 03/14)	
no lecture	(03/19, 03/21)	spring break
16, 17	(03/25, 03/28)	
18, 19	(04/01, 04/04)	
20, 21	(04/08, 04/11)	
22, 23	(04/15, 04/18)	No class this week (makeup will be determined)
24, 25	(04/21, 04/25)	
26, 27	(04/29, 05/02)	

Homework Homework will be assigned weekly and collected on Thursdays starting the second week of class. Three homework scores will be dropped. The "best" solutions to homework problems will be shared with the class. The average of the remaining scores will determine 90% of your grade. I will also give a 10% for class participation (doing problems at the board, etc).

Do well in class: (1) Read the book before you come to class; (2) Do a little bit of homework every day (don't lose your place); (3) If you are confused, ask questions; (4) Pay attention during lecture: no email, etc during class.