

<p>MATHEMATICS 472 ABSTRACT ALGEBRA II (3) (EFFECTIVE SPRING 2010)</p>
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PREREQUISITE: Math 310 and Math 314 and Math 471

CATALOG DESCRIPTION: Equivalence relations and partitions. Properties of the integers. Elementary theory of groups and rings. Polynomial rings, integral domains, divisibility, unique factorization domains, fields, vector spaces and linear transformations. Students are required to submit written work and make an oral presentation.

OBJECTIVES: The student will:

1. State and apply Sylow's theorems.
2. Investigate the structure of finite abelian groups.
3. Understand and apply knowledge of vector spaces and linear transformations.
4. Apply certain algebraic results to problems involving number theory and geometric constructions.
5. Investigate various properties of finite fields.

TEXT: A First Course In Abstract Algebra, John B. Fraleigh, 7th Edition, Addison-Wesley

OUTLINE:

Chapters	Topics	PERIODS
6	Extension Fields	10
7	Advanced Group Theory	10
9	Factorization	6
10	Automorphisms and Galois Theory	11
	Tests	4
		41