

# Course Schedule - Fall 2008

## Mathematics

500 **Abstract Algebra I** credit: 4 hours.

Isomorphism theorems for groups, centers of p-groups, simplicity of  $A_n$ , Jordan-Holder Theorem; Commutative Rings and Fields, PIDs, UFDs, Gauss's Lemma, splitting fields, Hilbert Basis Theorem, Zariski topology; Modules over Commutative Rings, structure theorem for finitely generated modules over PIDs, with applications to abelian groups and canonical forms for matrices; Zorn's lemma and applications, existence and uniqueness of algebraic closures; Categories and Functors, universal mapping properties, natural transformations, limits and colimits. Prerequisite: MATH 417 and MATH 418.

CRN	Type	Section	Time	Days	Location	Instructor
30815	lecture-discussion	D1	11:00 AM - 11:50 AM	MWF	room 253 Mechanical Engineering Bldg	Duursma, I