Math 320: Introduction to Algebraic Structures

(Text adopted - Fall 2003; Committee: Drs. J. Bryden, J. Parish, S. Rigdon)
(Topics adopted Fall 2008; Committee: Drs. J. Parish, G. Pelekanos, G.S. Staples, C. Traub)

Catalog Description: [Dist.NSM] Introduction to group theory. Groups, subgroups, cyclic groups, cosets and Lagrange’s theorem, homomorphisms, factor groups.
Prerequisites: Math 223 or consent of instructor.


Course Outline and Topics

Ch. 0: Preliminaries (brief review)
Ch. 1: Introduction to Groups
Ch. 2: Groups
Ch. 3: Finite Groups; Subgroups
Ch. 4: Cyclic Groups
Ch. 5: Permutation Groups
Ch. 6: Isomorphisms
Ch. 7: Cosets and Lagrange’s Theorem
Ch. 8: External Direct Products
Ch. 9: Normal Subgroups and Factor Groups
Ch. 10: Group Homomorphisms
Ch. 11: Fundamental Theorem of Finite Abelian Groups
Ch. 12: Introduction to Rings

Any instructor should cover all of the material specified; additional sections are optional.