

# MATH 631

## Fall, 1999

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Text: I. M. Isaacs, Algebra - A graduate course [QA 154 .2 .I83x 1994]

On reserve:

Dummit and Foote, Abstract Algebra	[QA 162 .D85x 1999]
Herstein, Topics in Algebra	[QA155 .H57 1975a]
Hungerford, Algebra	[QA155 .H93 1974]
Lang, Algebra	[QA154 .L27 1993]
MacLane and Birkhoff, Algebra	[QA162 .M16 1988]

Topics to be covered:

Group theory (groups acting on sets, Sylow theorems, Jordan-Hölder, ... )  
(Isaacs: parts of chapters 1-8)

Factorization in Rings  
(Isaacs: chapter 16)

Modules (free modules, modules over a PID, tensor products, ... )  
(Isaacs: chapter 12; plus material not in the text)

Galois Theory  
(Isaacs: parts of chapters 17-22)

Other topics as time allows.

Mechanics of course:

Lots of homework and 2 or 3 take-home exams.