

CMSC 691
Special Topics in Computer Science
Spring, 1992
Logic for Computer Science

Instructor: Dr. Howard E. Motteler

Time: TuTh 5:30–6:45, SS 209

Text: *Logic: A Foundation for Computer Science*, Spersneider & Antoniou

Course Outline:

1. Predicate Logic
 - Syntax
 - Semantics
 - Proof theory
 - Predicate logic with equality
 - Model theory
2. Equational Logic
 - Birkhoff's calculus
 - Term rewriting systems
 - Applications in specification
 - Applications in process theory
3. Logic Programming and Prolog
 - Horn Logic
 - Soundness and completeness
 - Applications
 - Procedural interpretation
4. Hoare Logic (as time permits)

Grading: Grading will be based on regular problem sets. There may be one or two short projects in Prolog or Equational Logic. There will be one assignment due approximately every two weeks.