

SALISBURY UNIVERSITY DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE  
 SYLLABUS (*Tentative*)  
 MATH 300 *Introduction to Abstract Mathematics*

**Intended Audience:** Students minoring in mathematics, particularly prospective teachers, will find this a good capstone to their undergraduate mathematical experience. Students majoring in mathematics who have not already completed a 400-level mathematics course will find this a valuable course to help them develop a better understanding of the connection between computational and theoretical mathematics.

**Objective:** To provide students with an opportunity to develop the foundations of abstract mathematics in a manner similar to that employed by professional mathematicians.

**Prerequisite:** MATH 210, completed with a grade of C or better.

**Text:** *Linear Point Set Theory, a Vehicle for Mathematical Metamorphosis*, by Charles C. Coppin (this will be distributed by Dr. May on the first day of class)

<i>Chapter</i>	<i>Weeks</i>
<b>1. Introduction</b>	2
<b>2. Axiom 1 and Its Consequences</b>	3
Axiom 1; models of Axiom 1; first and last points; betweenness; regions and end points.	
<b>3. Axiom 2, and Consequences of Axioms 1 and 2</b>	
Axiom 2; models of Axioms 1 and 2; limit points; sequences and convergence; open and closed sets; connected and disconnected sets.	3
<b>4. Consequences of Axioms 1, 2, and 3</b>	
Axiom 3; models of Axioms 1 through 3; least upper and greatest lower bounds; compact, perfect, and dense sets.	3
<b>5. Consequences of Axioms 1 through 4</b>	
Axiom 4; models of Axioms 1 through 4; separable sets.	<u>3</u>
	14

### EVALUATION

Presentations at the Board	30 - 70%
Portfolio	10 - 30%
Midterm Examination	0 - 15%
Final Examination	0 - 15%

\*\*Graduate students will be given special assignments.