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 (edited by E. Lee May, Jr.) (Copies will be distributed by Dr. Austin.)

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

Presentations at the Board	20%
Tests	50%
Final Examination	30%