SALISBURY UNIVERSITY
DEPARTMENT OF MATHEMATICS & COMPUTER SCIENCE
SYLLABUS *(Tentative)*

MATH 458/558 *Complex Analysis*

Description: An introduction to the complex-number system that is accessible to juniors and seniors in mathematics and the physical sciences. The primary focus will be on proof.

Intended for: Advanced undergraduate students in science and mathematics who wish to have an introduction to the theory and application of complex numbers.

Objective: To develop the foundations for the analysis of complex-valued functions.

Prerequisites: MATH 310 and either MATH 210 or PHYS 309.

Text: None (notes will be distributed by the instructor).

Topic	*Weeks*
The Field of Complex Numbers Definition and fundamental properties of complex numbers; relations; functions.	3
Some Geometric Aspects of Complex Numbers Points, the real line, and the number-plane; the modulus of a complex number; properties of the modulus.	1
Relations and Functions Definitions, examples, and exercises.	2
Continuity Definition of *continuous*; continuity of algebraic combinations of functions; uniform continuity; closedness and boundedness.	4
Differentiability Definition of *differentiable*; derivative rules; partial derivatives; a sufficient condition for differentiability; analyticity.	4

EVALUATION

Presentations and other class-participation	30 - 70%
Portfolio	10 - 30%
Midterm Exam	0 - 15%
Final Exam	0 - 15%

NOTE: The Writing Across the Curriculum Program is supported strongly in this writing-intensive course. Students will be expected to communicate mathematics and mathematical ideas effectively in speech and writing.

NOTE: Once a student has received credit, including transfer credit, for a course, credit may not be received for any course with material that is equivalent to it or is a prerequisite for it.