Columbus State Community College
Mathematics Department Syllabus

Course and Number: MATH 2366 - Discrete Mathematical Structures

Credits: 5  Class Hours Per Week: 5

Prerequisites: MATH 1152 with a “C” or better, or permission of instructor

COURSE DESCRIPTION: This course covers mathematical formalization and reasoning; logic; sets, mappings, and functions; methods of proof, recursive definitions; mathematical induction; elementary counting techniques, probability theory; relations and equivalence relations; Boolean algebra, logic gates; graphs, directed graphs, and trees; with applications to computer science.

GENERAL EDUCATION GOALS: This course addresses the following Columbus State general education goals:
- Critical Thinking
- Quantitative Literacy


GENERAL INSTRUCTIONAL METHODS: Lecture, discussion, demonstration, exploration and discovery exercises with the use of visual aids, graphing calculators, and/or computer resources.

STANDARDS AND METHODS FOR EVALUATION:
- The final examination will account for between 25% and 35% of the course grade.
- At least two-thirds of the course grade will be based on proctored quizzes, tests, and/or final exam that are closed book and closed notes.

GRADING SCALE:
Letter grades for the course will be awarded using the following scale:
- ≥ 90% - A
- 80-89% - B
- 70-79% - C
- 60-69% - D
- < 60% - E

Grades will not be curved, skewed, or otherwise inflated.

UNITS OF INSTRUCTION:
- Logic and Proofs (Chapter 1)
- Sets, Functions, Sequences, and Sums (Sections 2.1-2.5)
- Induction and Recursion (Sections 5.1, 5.3)
- Counting (Chapter 6)
- Discrete Probability (Sections 7.1, 7.2, 7.4)
- Relations (Sections 9.1, 9.5)
- Boolean Algebra (Sections 12.1-12.3)
- Graph Theory (Sections 10.1-10.5, Chapter 11)