

**PUBLIC SYLLABUS**  
**Columbus State Community College**  
**Mathematics Department**

**Course and Number:** MATH 1111 ~ Discrete Mathematics for Computing

**CREDITS: 3**      **CLASS HOURS PER WEEK: 4 (2 lecture, 2 lab)**

**PREREQUISITES:** MATH 1025 with a C or better, or placement into MATH 1075, or by placement equivalent

**DESCRIPTION OF COURSE:**

This college level mathematics course is designed for students seeking degrees in Computer Science (CSCI), Information Technology Support Technician (ITST), and Geographic Information Systems (GIS) and introduces students to logic and mathematical structures required for computer programming. Elementary logic, set theory and Boolean algebra are introduced. Functions and relations are emphasized, along with types of functions common in business or scientific applications, properties of functions such as domain, range, and one-to-one functions, and recursion. Mathematical structures like summations and sequences, elementary probability and vectors are also introduced. Data types, number systems such as binary and hexadecimal, right angle trigonometry, and applications of algebra are introduced in a contextualized framework that emphasizes collaborative problem-solving and applications to branches of programming practice.

**LEARNING OUTCOMES:**

- **Unit 1. Logic, Sets and Boolean Algebra**
- **Unit 2. Functions, Relations & Mathematical Structures**
- **Unit 3. Problem Solving and Data Literacy**

**GENERAL EDUCATION GOALS:**

Columbus State Community College has defined a series of general education outcomes that all students are expected to acquire before they graduate which include:

- Critical Thinking
- Quantitative Literacy

**EQUIPMENT AND MATERIAL REQUIRED:**

- A basic scientific calculator (or graphing calculator) is REQUIRED.
- The Texas Instruments' TI-84 (regular, Plus, Silver, etc.) graphing calculator is the department standard graphing calculator, fully supported, and approved for use during proctored assessments. However, any basic scientific calculator or other graphing calculator (such as the CASIO-FX-9750GII, TI-Nspire (non CAS version) or TI-83) is sufficient for use in this course.
- Your instructor may require that your graphing calculator's memory be reset (all RAM cleared) prior to each proctored assessment. Additional resources supporting the use of the TI-84 and CASIO-FX-9750GII may be available at: <http://www.csc.edu/academics/departments/math/graphing-calculator.shtml>.

## **TEXTBOOK, MANUALS, REFERENCES, AND OTHER READINGS:**

All materials provided in the Blackboard course.

## **GENERAL INSTRUCTIONAL METHODS:**

Instructional methods may include face-to-face or video lectures or demonstrations, face-to-face or virtual discussion, individual or group activities including the use of visual aids, calculators, computers and/or other technologies. Students may be expected to participate in these activities during class and/or outside of class. Instructors may require class participation, collaborative learning, and peer review.

## **GRADING SCALE:**

90% - 100%	=	A
80% - 89%	=	B
70% - 79%	=	C
60% - 69%	=	D
0% - 59%	=	E

## **STANDARDS AND METHODS FOR EVALUATION:**

There will be a comprehensive exam over each of the three units, with each exam accounting for 15% - 20% of the course grade 45% - 60% overall. The remainder of the grade 40% - 55% will be determined by a variety of in-class labs, quizzes, homework, and collaborative and/or individual projects. A maximum of 40% of the course grade may be determined by non-proctored or collaborative work.