

# Columbus State Community College

## Mathematics Department Syllabus

**Course and Number:** MATH 1116 – Mathematics for Liberal Arts

**Credits:** 3

**Class Hours Per Week:** 3

**Prerequisites:** MATH 1075 with a “C” or better, or placement by COMPASS or ACT test

**COURSE DESCRIPTION:** A survey of modern mathematical topics relevant to everyday life, intended for students who are not majoring in the physical sciences. This course applies critical thinking and problem solving skills to topics such as elementary graph theory, the mathematics of voting and apportionment and probability. Not open to students with credit for MATH 1130, MATH 1148, or above. This course meets the general education requirement for the AA degree.

**SPECIAL COURSE REQUIREMENTS:** None

**LEARNING OUTCOMES:** This course is designed for the Associate of Arts student who is not intending to take additional courses in mathematics. Students will work on developing skills in problem recognition, problem solving, quantitative literacy and understanding the role that mathematics plays in society. Topics will be taught in a method that shows the relationship between mathematics and the other disciplines.

**GENERAL EDUCATION GOALS:** This course addresses the following Columbus State general education goals:

- Critical Thinking
- Quantitative Literacy

### **TEXTBOOK, MANUALS, REFERENCES, AND OTHER REQUIRED MATERIALS:**

- Math in Society – CSCC Custom Edition (a free textbook)
- A scientific calculator is required. Students who already own a graphing calculator such as the TI-83 or TI-84 are permitted and encouraged to use it.

### **UNITS OF INSTRUCTION:**

- The Mathematics of Voting
- Weighted Voting Systems
- Apportionment
- Euler’s Theorems, Euler Circuits and Paths
- Hamilton Circuits and the Traveling Salesperson Problem
- Networks: Trees and Spanning Trees
- Probability

**GENERAL INSTRUCTIONAL METHODS:** Lecture, demonstration, and/or use of discovery and collaborative learning projects.

**STANDARDS AND METHODS FOR EVALUATION:** At least 80% of the grade will be based on proctored quizzes and tests that are both 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.