



MASTER COURSE OUTLINE

Prepared By: Tyler Wallace

Date: May 2021

COURSE TITLE

Math in Society

GENERAL COURSE INFORMATION

Dept.: MATH&

Course Num: 107

(Formerly:)

CIP Code: 27.0101

Intent Code: 11

Program Code:

Credits: 5

Total Contact Hrs Per Qtr.: 55

Lecture Hrs: 55

Lab Hrs: 0

Other Hrs: 0

Distribution Designation: Math Science MS, Symbolic or Quantitative Reasoning SQR

COURSE DESCRIPTION (as it will appear in the catalog)

This course will introduce the non-math/science major to mathematical applications in a variety of disciplines.

PREREQUISITES

Completion of MATH 098/MAP 119 or a higher placement - OR - completion of MATH 094/MAP 117 or placement in MATH 098/MAP 119 with concurrent enrollment in DVS 070.

TEXTBOOK GUIDELINES

Appropriate college level text or handouts and supplemental materials as chosen by the instructor

COURSE LEARNING OUTCOMES

Upon successful completion of the course, students should be able to demonstrate the following knowledge or skills:

1. At the conclusion of the course the student will be able to apply at least three methods of mathematical modeling to real-life situations.

INSTITUTIONAL OUTCOMES

IO2 Quantitative Reasoning: Students will be able to reason mathematically.

COURSE CONTENT OUTLINE

At least three distinct topics will be chosen at the instructor's discretion:

1. Problem solving strategies
2. Basic concepts of set theory
3. Introduction to logic
4. Counting methods
5. Probability
6. Statistics
7. Exponential and logarithmic functions and their applications
8. Mathematics of personal finance
9. Graph theory

10. Voting and apportionment
11. Historic numeration systems
12. Graphs and functions
13. Calculus of polynomial and rational functions with min/max applications
14. Applications in economics and marginal theory
15. Matrices and applications
16. Leontief models
17. Elementary linear programming
18. Elementary game theory
19. Markov chains

DEPARTMENTAL GUIDELINES *(optional)*

At least 70% of the grade will be based on quantifiable work such as exams, homework, research project and quizzes. Up to 30% of the grade may be based on attendance, projects, journal work, etc. at the instructor's discretion. Grading procedures must be clearly stated in the class syllabus.


DIVISION CHAIR APPROVAL

5/3/21
DATE