

# MTH 105Z : MATH IN SOCIETY

## Transcript title

Math in Society

## Credits

4

## Grading mode

Standard letter grades

## Total contact hours

40

## Lecture hours

40

## Recommended preparation

MTH 095 or MTH 098 or higher or minimum placement Math level 14.

## Course Description

An exploration of present-day applications of mathematics focused on developing numeracy. Major topics include quantitative reasoning and problem-solving strategies, probability and statistics, and financial mathematics; these topics are to be weighted approximately equally. This course emphasizes mathematical literacy and communication, relevant everyday applications, and the appropriate use of current technology.

## Course learning outcomes

1. Employ mathematical reasoning skills when reading complex problems requiring quantitative or symbolic analysis and demonstrate versatility in the consideration and selection of solution strategies.
2. Use appropriate mathematical structures and processes to make decisions and solve problems in the contexts of logical reasoning, probability, data, statistics, and financial mathematics.
3. Use appropriate representations and language to effectively communicate and interpret quantitative results and mathematical processes orally and in writing.
4. Demonstrate mathematical habits of mind by determining the reasonableness and implications of mathematical methods, solutions, and approximations in context.
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## Content outline

These are the three major topics along with the required supporting topics for each. The major topics are listed in the order in which they should be taught. Reasoning logically and problem solving are skills that should permeate throughout the entire course.

1. Logical Reasoning and Problem Solving
  - a. Describing and Critiquing Arguments
  - b. Understanding the Language of Logic

- c. Recognizing Common Logical Fallacies
  - d. Learning Strategies of Problem Solving (non-algebraic, showing another way)
2. Probability and Statistics
    - a. Counting - Multiplication Property
    - b. Measures of Central Tendencies and Spread
    - c. Calculating and Interpreting Basic Probabilities
    - d. Interpreting Graphical Displays/Histograms
    - e. Margin of Error/Polls
    - f. Expected Value
    - g. Interpreting Distributions
    - h. Misuse of Data
  3. Financial Literacy
    - a. Percent Sales and Income Tax
    - b. Simple and Compound Interest
    - c. Annuities
    - d. Loans and Credit Cards

## Required materials

A combination of low cost textbook and instructor provided materials.

## General education/Related instruction lists

- Computation
- Mathematics