MOHAWK VALLEY COMMUNITY COLLEGE

UTICA and ROME, NEW YORK

COURSE OUTLINE

MA096

MATHEMATICAL LITERACY

Prepared November 2015

COURSE OUTLINE

Title: Mathematical Literacy

Catalog Number: MA09x

Contact Hours: 4

Practicum Hours: 0

Credit Hours: 0

Prerequisite: An appropriate placement test score or MA089 Arithmetic.

Catalog

Description: This course focuses on math for everyday life and prepares students to take a college-level non- STEM course in mathematics. It integrates fluency with numbers, proportional reasoning, data interpretation, algebraic reasoning, mathematical modeling, and communicating quantitative information. Mathematical concepts are investigated through cooperative learning activities based on real-life contexts.

**LEARNING OUTCOMES:**

**Upon satisfactory completion of this course, the successful student will be able to:**

1. Apply the concepts of numeracy to investigate and describe quantitative relationships and solve problems in a variety of contexts.
2. Represent proportional relationships and solve problems that require an understanding of ratios, rates, proportions, scaling, and data.
3. Reason using the language and structure of algebra to investigate, represent, and solve problems.
4. Represent relationships between quantities in multiple ways (tables, equations, graphs) and solve problems that require an understanding of mathematical modeling.
5. Communicate quantitative information in writing.

Teaching Guide

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**CONTENT OUTLINE:**

| Topics Covered | Time Frame in  50-Minute Hours |
| --- | --- |
| Starting Strong  Teacher selected materials from Carnegie  Numeracy  Quantitative situations in real life  Making sense of large numbers, scientific notation  Estimation  Order of Operations  Perform multi-step calculations  Converting between percents, ratios, and decimals in context  Probability (percent and proportion)  Proportional Reasoning  Using ratio and proportion to make sense of large numbers  Relative and absolute change  Picture data with graphs  Measures of central tendency  Ratio/proportion in index numbers  Algebraic Reasoning  Converting units  Meaning and use of variables  Geometry and using formulas to make financial decisions  Solving for an unknown  Solving proportions  Using Models  Linear models (equations, graphs, slope)  Exponential growth  Comparing linear and exponential change | 6  2  3  1  2  1.5  2  1  3  2  2  4  1.5  3  1.5  4  2.5  1  4  6  3 |
| Note: Communicating quantitative information in writing is embedded throughout the course.  Total | 56 hours |