Massasoit Community College

Instructor:
Office:
Email:
Phone:
Office Hours:

Course: Mathematical Literacy for College Students
Course Number: MATH060-XX
Semester:
Classroom:
Day and Time:

Course Description: This course is designed to introduce fundamental concepts of algebra to students who will be taking a non-College-Algebra-track math course such as Introduction to Statistics or Topics in Mathematics I/II. Topics include numeracy, basic data analysis, proportional reasoning, an introduction to algebraic expressions and algebraic reasoning, and linear functions. Topics are presented in an applied manner to develop mathematical literacy skills. This course is not designed for students who intend to take College Algebra. Note: credits earned in this course cannot be applied toward graduation.

Prerequisite: C- or higher in MATH 001 Preparation for College Math I or MATH 010 Fundamentals of Mathematics and ENGL 092 Preparing for College Reading II; waiver by placement testing results; or departmental approval.

Required Text and Materials:

1. Mathematical Literacy for College Students, 3rd Edition, Sullivan, Pearson Education, 2014. Purchase of the textbook from the bookstore will come packaged with MyMathLab.
2. A scientific calculator is required for the course. The calculator of choice is the TI-30XIIS.
3. A 3-ring binder for portfolio.

Course Topics:

Chapter One:

-- Section 1.1: Introduction to Problem Solving
-- Section 1.2: Numbers and Operation Sense
-- Section 1.3: Integer Operations
-- Section 1.4: Rational Numbers and Operations
-- Section 1.5: Percentages and Percent Change
-- Section 1.6: Exponents, Magnitude, and Scientific Notation

Chapter Two:

-- Section 2.1: Problem Solving and Units
-- Section 2.2: Rates and Rates of Change
-- Section 2.3: Ratio and Proportion
-- Section 2.4: Proportionality and Variation (Direct Variation only)

Chapter Three:

-- Section 3.1: Graphical Design and Analysis
-- Section 3.2: Organizing and Representing Data
-- Section 3.3: Summarizing Data by Measures of Center
-- Section 3.4: Summarizing Data by Measures of Spread

Chapters Four and Five:

-- Section 4.1: Variables, Constants, and Algebraic Expressions
-- Section 4.2: Distributive Property, Common Factors, and Like Terms
-- Section 4.3: Expressions and Equations
-- Section 4.4: Solving Equations
-- Section 4.5: More on Solving Equations
-- Section 5.1: Introduction to Functions
-- Section 5.2: Linear Functions
-- Section 5.3: Modeling with Linear Functions

Teaching Procedures: Material will be presented in a variety of formats, including lecture, class discussion, and small group work. The focus of the course will be to develop mathematical literacy via applied scenarios.

Instructional Objectives:

COURSE OUTCOMES	OUTCOMES ACTIVITIES
At the end of this course, students will be able to	Note: Outcomes and outcome activities are modeled in part from AMATYC's New Life Project and the Carnegie Foundation's Statway Project.
Use concepts of numeracy to solve applied problems.	1. Learn problem solving skills by developing number sense. (QL, CCT, IL) 2. Solve applied problems using the order of operations. (QL, CCT, IL) 3. Perform operations with integers and rational numbers in an applied setting. (QL, CCT, IL) 4. Learn how and when to round numbers appropriately in an applied setting.(QL, CCT, IL) 5. Solve applied problems involving percentages and percent change. (QL, CCT, IL)
Perform basic data analysis in an applied context.	1. Construct and interpret different types of graphs and charts. (QL, CCT, IL) 2. Calculate and interpret measures of central tendency. (QL, CCT, IL)

	3. Calculate and interpret measures of variation. (QL, CCT, IL) 4. Summarize and make decisions on different types of data using visual displays and numerical descriptive statistics. (QL, CCT, IL)
Solve problems requiring proportional reasoning such as those involving ratios, rates, proportions, and scaling.	1. Determine proportional relationships from verbal and/or written descriptions. (QL, CCT, IL) 2. Solve applied problems involving rates and rates of change. (QL, CCT, IL) 3. Recognize when two quantities are directly proportional and solve applied problems in this scenario. (QL, CCT, IL)
Solve real world problems using algebraic reasoning.	1. Determine how variables can be used represent unknown quantities. (QL, CCT, IL) 2. Evaluate expressions for quantities that are allowed to vary. (QL, CCT, IL) 3. Model real world situations using equations, inequalities, verbal descriptions, and visual displays such as graphs and tables.(QL, CCT, IL) 4. Determine how changes in one variable in an expression affect the values of other variables. (QL, CCT, IL) 5. Solve algebraic equations and interpret their results in an applied context. (QL, CCT, IL)
Understand how functions can be used to represent correspondences between two variables.	1. Represent functions algebraically, verbally, and as a graph or table. (QL, CCT, IL) 2. Model applied situations with constant rate of change using linear functions. (QL, CCT, IL) 3. Determine how changes in the input of a model affects the output. (QL, CCT, IL)
Understand how linear functions can be used to model real world situations.	1. Plot points in the xy plane. (QL, CCT, IL) 2. Calcuate the slope of a line and interpret it in an applied setting. (QL, CCT, IL) 3. Determine the intercepts of a line algebrically or using a graph and interpret them in an applied setting. (QL, CCT, IL) 4. Use slopes, intercepts, and/or other points to graph a line and interpret the graph in an applied setting (QL, CCT, IL) 5. OPTIONAL: Determine the line of best fit for a data set exhbiting a linear trend. (QL, CCT, IL) 6. OPTIONAL: Calculate and interpret residuals for data sets exhbiting a linear trend. (QL, CCT, IL)
OPTIONAL: Understand how exponential functions can be used to model real world situations.	1. Model applied situations using exponential functions. (QL, CCT, IL)

	2. Determine and interpret exponential growth or decay from formulas, graphs, and/or verbal descriptions of a situation. (QL, CCT, IL)
Strengthen Core Competencies** in order to increase success in this and other courses and in the workplace.	Referenced above

**Indicate the Core Competencies that apply to the outcomes activities and assessment tools: Written Communication (WC); Quantitative Literacy (QL); Oral Communication (OC); Information Literacy (IL); Critical and Creative Thinking (CCT); Civic Engagement (CE); Integrative Learning (IG); Global Learning (GL)

Basis for Student Grading: Grades for this course will be assigned as follows:

Grade	Average
A	93%-100%
A-	90%-92%
B+	87%-89%
B	83%-86%
B-	80%-82%
C+	77%-79%

Grade	Average
C	73%-76%
C-	70%-72%
D+	67%-69%
D	63%-66%
D-	60%-62%
F	0-59%

The grade you earn is the grade you will receive in this course. Grades are not negotiable. You will not be allowed to make up work, substitute alternative assignments, or submit extra assignments in order to improve your grade during the semester or after the semester ends.

Grades of incomplete are given only in situations when extenuating circumstances prevent a student from taking the final exam or fulfilling a specific requirement in the course. The grade of "I" cannot be used to give students additional time to complete course assignments in order to raise their grade.

Basis for Evaluating Student Performance: The grade for this course will be weighted based on the following categories:

- *Chapter Tests (50%)*
- *Online Quizzes (10%)*
- *Online Homework Assignments (10%)*
- *Portfolio Collection (10%)*
- *Final Exam (20%)*

There is no extra credit available in this course.

Tentative Test Schedule/Assignment(s) Schedule:

Assignment:	Tentative Date:
Test 1	
Test 2	
Test 3	
Test 4	
Final Exam	

Attendance: Attendance and participation are critical components toward your success in this course. You are expected to attend every class and to be active in the learning process. You are responsible for all material covered in class, regardless of whether or not you are present.

Accommodations Statement: Massasoit's Disability Services office provides accommodations to students who qualify for services based on a documented disability. Students interested in accessing classroom or testing accommodations must contact Disability Services directly. In an effort to avoid any lapse in services, new and returning students are encouraged to contact Disability Services at the beginning of each semester to receive an Accommodation Letter for the current semester. Students on all campuses can contact Disability Services at 508-588-9100 X 2132 or by e-mail at DisabilityServices@massasoit.edu for further information or questions.

Title IX Statement: Massasoit Community College is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, stalking, or retaliation, we encourage you to report it to *Yolanda Dennis, Chief Diversity Officer and Title IX Coordinator, Office of Diversity and Inclusion, at 508-588-9100, x1309 or* ODI@massasoit.edu. While you may talk to a faculty member, understand that as a "responsible employee" of the College, the faculty member must report what you share to the College's Title IX Coordinator. On and off campus resources and interim measures are available to assist you. Information about both of these policies can be found at www.massasoit.edu/title-ix and www.massasoit.edu/eeo. We are here to support you.

Academic Integrity: Academic dishonesty will not be tolerated. Please see the following URL for more information on the college's policies on academic integrity:

http://www.massasoit.edu/academics/policies/academic-honesty/index