

Massasoit Community College
MATH010-XX
Fall XX/Spring XX

INSTRUCTOR:

PHONE:

EMAIL:

OFFICE:

OFFICE HOURS:

CLASS TIME & LOCATION:

FINAL EXAM:

REQUIRED TEXT: *Basic Mathematics through Applications, Akst/Bragg, 5th edition, Pearson* **OR**
Basic Mathematics through Applications, Akst/Bragg (second custom edition for Massasoit Community College)

REQUIRED MATERIALS: Notebook or 3 Ring Binder
Pencil and eraser
Color pencil or pen
Highlighter
Index Cards

COURSE DESCRIPTION:

The aim of this course is to provide for the person with slight mathematical background an opportunity to acquire an understanding and appreciation of the basic structure of elementary operations on whole numbers, fractions, and decimals. In addition, percent, measurement, ratio and proportion, signed numbers, simple linear equations, and exponential notation will be covered. Problem solving will be integrated throughout the course.

Note: Credits earned in this course cannot be applied toward graduation. Students must earn a grade of C- or higher to take Introductory Algebra (MATH101).

Prerequisite: Placement testing required.

ACCOMODATIONS 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/eo. We are here to support you.

ATTENDANCE:

Attendance will be taken each class and will account for 5% of your grade (see grading policy for details). Regular class attendance is absolutely essential. If you are absent, it is your responsibility to get class notes and make up any missed assignments. **No make up tests (or quizzes) will be given unless made up before the tests are handed back – BEFORE the next class meeting (or unless other arrangements have been made).**

GRADING POLICY:

1. **Quizzes** will be given periodically (the actual dates will be on the individual Chapter Outlines). The quizzes will be averaged and will count for **10%** of your semester grade.
2. Six **tests** will be given throughout the semester (the actual dates will be on the individual Chapter Outlines). I will drop your lowest test grade. The remaining five test grades will be averaged and will account for **60%** of your semester grade
3. Selected **homework assignments and class assignments** will account for **10%** of your semester grade.
4. **ATTENDANCE:** A students' attendance will count as **5%** of the final grade. In order to receive a satisfactory grade in this course, a student should miss no more than six classes. The following absences will be equivalent to a numerical grade: Perfect attendance = 100%, 1 absence = 94%, 2 absences = 88%, 3 absences = 82%, 4 absences = 76%, 5 absences = 70%, and 6 absences = 64%.
5. The final exam will account for **15%** of your grade.

Your final grade will be based on the following:

	$A = 94 - 100\%$	$A^- = 90 - 93\%$
$B^+ = 87 - 89\%$	$B = 84 - 86\%$	$B^- = 80 - 83\%$
$C^+ = 77 - 79\%$	$C = 74 - 76\%$	$C^- = 70 - 73\%$
$D^+ = 67 - 69\%$	$D = 64 - 66\%$	$D^- = 60 - 63\%$
$F = \text{below } 60\%$		

ASSIGNMENTS:

Homework will be assigned at each class and should be completed for the following class. It will be reviewed during the next class. **Homework will be collected on test days.** Homework should be completed in the following manner.

1. Complete a problem (showing all work).
2. Check the answer in the back of the book.
 - **If the answer is correct**, highlight the answer and go on to the next problem.
 - **If the answer is not correct**, look over your work to see if you can find your mistake.
 - If you find your mistake, use a different color pencil or pen to make a note to yourself next to the incorrect problem as to what you did wrong so that you will not make the same mistake again. Redo the problem correctly. Go on to the next problem.
 - If you cannot find your mistake seek help from me or the ARC tutors *or* ask about the problem in class the next day. Be sure to leave space in your notebook so you can redo the problem correctly. Go on to the next problem.
3. Pass in your notebook on the day of a test and I will grade your homework while you are taking the test.

OR (if using MML)

Homework will be assigned on MyMathLab. Your homework average will automatically record in MyMathLab

RECOMMENDED STUDY APPROACH:

- ❖ Attend all classes and take thorough notes during class.
- ❖ After class, read over notes and examples to be sure you understand what was done in class.
- ❖ Summarize each new rule on a note card (in your words) to use as you complete the assignments.
- ❖ Do all homework problems before the class meets again.

TECHNOLOGY DEVICES IN THE CLASSROOM:

The use of technology that is not course related will not be allowed in the classroom. This includes iPods, cell phones and any other devices that are not being used in relation to the course content. A scientific calculator is required and you will not be allowed to use the calculator on your cell phone during class or on tests.

Tentative Course Outline

WEEK	TOPIC
1	1.1 Introduction to Whole Numbers 1.2 Adding and Subtracting Whole Numbers 1.3 Multiplying Whole Numbers
2	1.4 Dividing Whole Numbers 1.5 Exponents, Order of Operations, and Averages 1.6 More on Solving Word Problems
3	CHAPTER 1 TEST 2.1 Factors and Prime Numbers 2.2 Introduction to Fractions
4	2.2 Introduction to Fractions(cont'd) 2.3 Adding and Subtracting Fractions
5	2.3 Adding and Subtracting Fractions (cont'd) 2.4 Multiplying and Dividing Fractions
6	More Practice with Fractions CHAPTER 2 TEST
7	3.1 Introduction to Decimals 3.2 Adding and Subtracting Decimals 3.3 Multiplying Decimals
8	3.4 Dividing Decimals More Practice with Decimals CHAPTER 3 TEST
9	4.1 Introduction to Basic Algebra 4.2 Solving Addition and Subtraction Equations 4.3 Solving Multiplication and Division Equations
10	5.1 Introduction to Ratios 5.2 Solving Proportions CHAPTER 4 and 5 TEST
11	6.1 Introduction to Percents 6.2 Solving Percent Problems
12	6.3 More on Percents CHAPTER 6 TEST
13	7.1 Introduction to Signed Numbers 7.2 Adding Signed Numbers 7.3 Subtracting Signed Numbers 7.4 Multiplying Signed Numbers 7.5 Dividing Signed Numbers More Practice With Signed Numbers
14	CHAPTER 7 TEST Review for Final Exam

COURSE OBJECTIVES:

COURSE OUTCOMES	OUTCOMES ACTIVITIES
<p>At the end of this course, students will be able to</p> <p>Apply the understanding of place value and the operations on whole numbers in order to facilitate the use of these operations in related topics and problem solving in mathematics.</p>	<ol style="list-style-type: none"> 1. Add, subtract, multiply, and divide whole numbers. (QS) 2. Demonstrate an understanding of place value by writing a given numeral in standard notation, expanded notation, and in words. (R, QS) 3. Round whole numbers to a given place value. (QS) 4. Find the prime factorization of a number and express it in exponential notation. (QS) 5. Simplify an expression using the order of operations agreement. (CT) 6. Solve related application problems. (R, QS, W, CT)
<p>Apply the rules of integers and the order of operations agreement using integers in order to have the basic skills necessary to successfully complete this and future mathematics courses.</p>	<ol style="list-style-type: none"> 1. Add, subtract, multiply and divide signed numbers. (QS) 2. Demonstrate an understanding of absolute value by evaluating expressions in which it is used. (QS) 3. Simplify integer expressions according to the order of operations agreement. (QS, CT) 4. Solve related application problems. (R, QS, W, CT)
<p>Apply the operations on rational numbers and mixed numerals in order to facilitate the use of these operations in related topics and problem solving in this and future math courses.</p>	<ol style="list-style-type: none"> 1. Add, subtract, multiply, and divide rational numbers and mixed numerals. (QS) 2. Use the Property of One and the fundamental properties of fractions to form equivalent fractions in higher and lower terms. (QS) 3. Simplify rational expressions according to the order of operations agreement. (QS, CT) 4. Simplify complex fractions. (QS, CT) 5. Solve related application problems. (R, QS, W, CT)
<p>Understand the structure of a decimal number system and to apply the basic operations on decimals in order to facilitate the use of these operations in related topics and problem solving in this and other courses in mathematics.</p>	<ol style="list-style-type: none"> 1. Demonstrate the understanding of decimal place value by <ol style="list-style-type: none"> a. expressing a numeral in expanded notation, standard notation, and in words. (QS) b. rounding a decimal numeral to a given place value. (CT) c. comparing decimal numerals. (QS, CT) 2. Add, subtract, multiply, and divide decimal numerals. (QS) 3. Simplify decimal expressions according to the order of operations agreement. (QS, CT) 4. Convert fractions to their decimal equivalents. (QS, CT) 5. Convert terminating decimals to their fractional equivalents. (R, QS, W, CT)
<p>Understand the concept of percent and its relationship to fractions and decimals in order to develop techniques to solve problems involving percent applications.</p>	<ol style="list-style-type: none"> 1. Convert among decimal fraction and percent notation. (CT, QS) 2. Solve the basic 3 types of percent equations. (CT, W, QS, R) 3. Solve real life application problems, such as simple interest and sales tax, percent increase and decrease, sales discount and commission. (W, R, CT, QS) <p>Application problems to real life</p>

Apply the concepts of ratio and proportion to solve problems that can be modeled by these types of relationships in this and future courses.	<ol style="list-style-type: none"> 1. Write a ratio in its three forms. (QS,CT) 2. Find rate and unit rate. (QS,CT) 3. Solve proportions. (QS,CT) 4. Solving application problems using proportion. (W,R,QS,CT)
Use standard units of measurement to find the perimeter, area, and volume of geometric figures.	<ol style="list-style-type: none"> 1. Use the appropriate formula to find perimeter, area and volume. (CT,QS) 2. Use the appropriate unit of measure and equivalent conversions where applicable. (CT,QS,R,W)
Solve simple linear equations in order to solve problems that can be modeled by these forms in this and future courses.	<ol style="list-style-type: none"> 1. Use the addition principle to solve equations in the form $x + a = b$. (QS,CT) 2. Use the multiplication property to solve equations in the form $ax = b$. (QS,CT)
OPTIONAL: Use both the English and metric systems of measurements appropriately.	<ol style="list-style-type: none"> 1. Recognize the appropriate unit of measure for a given situation; e.g. liquid, distance, very large, very small, etc. (QS,CT) 2. Make conversions within each system and between systems. (QS,CT)
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: Critical Thinking (CT); Technology Skills (TS); Oral Communications (OC); Quantitative Skills (QS); Reading (R); Writing (W).

