**Mathematical Literacy for College Students**
**MATH 060**
**Spring 2016**

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.

| COURSE OUTCOMES | OUTCOMES ACTIVITIES | ASSESSMENT TOOLS |
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| 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. | a. Learn problem solving skills by developing number sense. (QL, CCT, IL)<br>b. Solve applied problems using the order of operations. (QL, CCT, IL)<br>c. Perform operations with integers and rational numbers in an applied setting. (QL, CCT, IL)<br>d. Learn how and when to round numbers appropriately in an applied setting.( QL, CCT, IL)<br>e. Solve applied problems involving percentages and percent change. (QL, CCT, IL) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL)<br>4. Projects (QL, CCT, IL)<br>5. Cumulative Final Exams (QL, CCT, IL) |
| Perform basic data analysis in an applied context. | 1. Construct and interpret different types of graphs and charts. (QL, CCT, IL)<br>2. Calculate and interpret measures of central tendency. (QL, CCT, IL) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL) |

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| | 3. Calculate and interpret measures of variation. (QL, CCT, IL)<br>4. Summarize and make decisions on different types of data using visual displays and numerical descriptive statistics. (QL, CCT, IL) | 4. Projects (QL, CCT, IL)<br>5. Cumulative Final Exams (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)<br>2. Solve applied problems involving rates and rates of change. (QL, CCT, IL)<br>3. Recognize when two quantities are directly proportional and solve applied problems in this scenario. (QL, CCT, IL) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL)<br>4. Projects (QL, CCT, IL)<br>5. Cumulative Final Exams (QL, CCT, IL) |
| Solve real world problems using algebraic reasoning. | 1. Determine how variables can be used represent unknown quantities. (QL, CCT, IL)<br>2. Evaluate expressions for quantities that are allowed to vary. (QL, CCT, IL)<br>3. Model real world situations using equations, inequalities, verbal descriptions, and visual displays such as graphs and tables.( QL, CCT, IL)<br>4. Determine how changes in one variable in an expression affect the values of other variables. (QL, CCT, IL)<br>5. Solve algebraic equations and interpret their results in an applied context. (QL, CCT, IL) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL)<br>4. Projects (QL, CCT, IL)<br>5. Cumulative Final Exams (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) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL) |

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| | 2. Model applied situations with constant rate of change using linear functions. (QL, CCT, IL)<br>3. Determine how changes in the input of a model affects the output. (QL, CCT, IL) | 4. Projects (QL, CCT, IL)<br>5. Cumulative Final Exams (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)<br>2. Calculate the slope of a line and interpret it in an applied setting. (QL, CCT, IL)<br>3. Determine the intercepts of a line algebraically or using a graph and interpret them in an applied setting. (QL, CCT, IL)<br>4. Use slopes, intercepts, and/or other points to graph a line and interpret the graph in an applied setting (QL, CCT, IL)<br>5. OPTIONAL: Determine the line of best fit for a data set exhibiting a linear trend. (QL, CCT, IL)<br>6. OPTIONAL: Calculate and interpret residuals for data sets exhibiting a linear trend. (QL, CCT, IL) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL)<br>4. Projects (QL, CCT, IL)<br>5. Cumulative Final Exams (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)<br>2. Determine and interpret exponential growth or decay from formulas, graphs, and/or verbal descriptions of a situation. (QL, CCT, IL) | 1. Practice Problem Assignments (QL, CCT, IL)<br>2. Weekly Quizzes (QL, CCT, IL)<br>3. Chapter Exams (QL, CCT, IL)<br>4. Projects (QL, CCT, IL)<br>Cumulative Final Exams (QL, CCT, IL) |

**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)