Washtenaw Community College Comprehensive Report

MTH 097 Foundations of Algebra
Effective Term: Fall 2021

Course Cover

College: Math, Science and Engineering Tech
Division: Math, Science and Engineering Tech
Department: Math & Engineering Studies
Discipline: Mathematics
Course Number: 097
Org Number: 12200
Full Course Title: Foundations of Algebra
Transcript Title: Foundations of Algebra
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Three Year Review / Assessment Report
Change Information:
Course description
Outcomes/Assessment
Objectives/Evaluation
Rationale: Update some of the language to new standards. Add some new objectives to reflect needs exposed by the latest course assessment.
Proposed Start Semester: Fall 2021
Course Description: In this developmental math course, students will focus on algebra. Topics include linear functions, linear inequalities, polynomials and systems of linear equations. Successful completion of this course with a minimum grade of "C" will raise your Academic Math level to 3.

Course Credit Hours

Variable hours: No
Credits: 4
Lecture Hours: Instructor: 60 **Student:** 60
Lab: Instructor: 0 **Student:** 0
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 60 **Student:** 60
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

Reduced Reading/Writing Scores

College-Level Math

Level 2

Requisites

Prerequisite
Academic Reading Level 5; no minimum writing level

General Education

Degree Attributes

Below College Level Pre-Reqs

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Represent and solve linear equations and inequalities graphically, analytically and verbally.
   Assessment 1
   Assessment Tool: Outcome-related questions on common departmental final exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of at least 75 exams with at least 4 student exams from each section
   How the assessment will be scored: A rubric developed by the course mentor with input from the department. Each question will be scored on a scale from 0 to 4.
   Standard of success to be used for this assessment: 75% of the students will score 75% or higher.
   Who will score and analyze the data: The course mentor

2. Solve systems of two linear equations graphically and analytically.
   Assessment 1
   Assessment Tool: Outcome-related questions on common departmental final exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of at least 75 exams with at least 4 student exams from each section.
   How the assessment will be scored: A rubric developed by the course mentor with input from the department. Each question will be scored on a scale from 0 to 4.
   Standard of success to be used for this assessment: 75% of the students will score 75% or higher.
   Who will score and analyze the data: The course mentor

3. Add, subtract, multiply, and factor polynomial expressions.
   Assessment 1
   Assessment Tool: Outcome related questions on common departmental final exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of at least 75 exams with at least 4 student exams from each section.
   How the assessment will be scored: A rubric developed by the course mentor with input from the department. Each question will be scored on a scale from 0 to 4.
   Standard of success to be used for this assessment: 75% of the students will score 75% or higher.
   Who will score and analyze the data: The course mentor

Course Objectives

1. Use the addition, subtraction, multiplication and division properties of equality to solve linear equations in a real-world context.

2. Use the addition, subtraction, multiplication and division properties of inequality to solve linear inequalities in a real-world context.
3. Express solutions to linear inequalities with set-builder notation and interval notation.
4. Read and interpret information on a graph; graph linear equations of the form y=mx + b and Ax + By = C; graph horizontal and vertical lines; solve applications involving graphs of lines.
5. Find the slope of a line given two points or the equation of the line.
6. Find an equation of a line given its graph, its slope and a point on the line, or two points on the line.
7. Graph linear inequalities; graph inequalities involving horizontal and vertical lines.
8. Solve a system of linear equations by elimination, substitution, or graphically.
9. Represent and solve systems of linear equations with matrices.
10. Represent and solve real-life application problems with systems of linear equations.
11. Use the multiplication, division and power rules for exponents to simplify expressions; simplify expressions involving negative exponents; solve applications involving scientific notation.
12. Add, subtract and multiply simple polynomials.
13. Find and factor the greatest common factor from a polynomial. Factor trinomials in the form ax^2 + bx + c; factor difference of squares, difference of cubes and sum of cubes polynomials.
14. Use function notation to evaluate functions; find the domain and range of a function.

New Resources for Course

Course Textbooks/Resources

Textbooks

Miller, Oneil, Hyde. *Intermediate Algebra*, 5th ed. McGraw-Hill, 2017, ISBN: 9781260500066.

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Robert Hatcher	*Faculty Preparer*	*Apr 13, 2021*
Department Chair/Area Director:		
Lisa Manoukian	*Recommend Approval*	*Apr 26, 2021*
Dean:		
Victor Vega	*Recommend Approval*	*May 20, 2021*
Curriculum Committee Chair:		
Randy Van Wagnen	*Recommend Approval*	*Aug 04, 2021*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Aug 04, 2021*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Aug 05, 2021*