

Washtenaw Community College Comprehensive Report

MTH 097 Foundations of Algebra Effective Term: Fall 2019

Course Cover

Division: Math, Science and Engineering Tech

Department: Mathematics

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:

Change Information:

Consultation with all departments affected by this course is required.

Rationale: The textbook needs to be updated

Proposed Start Semester: Spring/Summer 2019

Course Description: In this developmental math course, students will focus on algebra. Topics include linear functions, 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 graphically, analytically and verbally.

Assessment 1

Assessment Tool: Common departmental final exam.

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: Common final exams will be collected from 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

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: Common departmental final exam.

Assessment Date: Fall 2021

Assessment Cycle: Every Three Years

Course section(s)/other population: Common final exams will be collected from all sections.

Number students to be assessed: A random sample of at least 75 exams with at least 4 student exams from each sections

How the assessment will be scored: A rubric developed by the course mentor with input from the department

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: Common departmental final exam.

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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. 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.

4. Find the slope of a line given two points or the equation of the line.
5. Find an equation of a line given its graph, its slope and a point on the line, or two points on the line.
6. Graph linear inequalities; graph inequalities involving horizontal and vertical lines.
7. Solve a system of linear equations by elimination, substitution, or graphically.
8. Represent and solve systems of linear equations with matrices.
9. Represent and solve real-life application problems with systems of linear equations.
10. Use the multiplication, division and power rules for exponents to simplify expressions; simplify expressions involving negative exponents; solve applications involving scientific notation.
11. Add, subtract and multiply simple polynomials.
12. 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.
13. 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

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Robert Hatcher</i>	<i>Faculty Preparer</i>	<i>Nov 20, 2018</i>
Department Chair/Area Director: <i>Lisa Manoukian</i>	<i>Recommend Approval</i>	<i>Jan 24, 2019</i>
Dean: <i>Kristin Good</i>	<i>Recommend Approval</i>	<i>Jan 28, 2019</i>
Curriculum Committee Chair: <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Apr 17, 2019</i>
Assessment Committee Chair: <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Apr 18, 2019</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Apr 22, 2019</i>