Washtenaw Community College Comprehensive Report

MTH 094 Pathways to Math Literacy
Effective Term: Spring/Summer 2019

Course Cover

Division: Math, Science and Engineering Tech
Department: Mathematics
Discipline: Mathematics
Course Number: 094
Org Number: 12200
Full Course Title: Pathways to Math Literacy
Transcript Title: Pathways to Math Literacy
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Pre-requisite, co-requisite, or enrollment restrictions
Outcomes/Assessment
Rationale: The pre-requisite for reading needs to be updated because it is out of alignment with other developmental math courses. Both MTH 067 and MTH 097 require academic reading levels of 5. This course is a reading intensive course and a lower reading level is putting students at a disadvantage.
Proposed Start Semester: Winter 2019
Course Description: In this course, students will learn about data, numbers and patterns, unit conversions, basic probability, dimensional analysis, algebraic equations as a problem-solving tool, linear and non-linear relationships, standard deviations and the normal curve. Pythagorean Theorem and the distance formula are also covered. Microsoft Excel is used as a tool for data analysis, calculation and display. It is structured in a non-lecture format. Group work and participation will be required each day of class with problem solving and applications. Short technology assignments will be aligned with each lesson. Successful completion of this course with a minimum grade of "C" will raise your Academic Math level to 3. This course is not intended for those students planning to go on to the precalculus/calculus sequence. Those students should take MTH 097 instead.

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 or higher

General Education

Degree Attributes

Below College Level Pre-Reqs

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Analyze numbers and patterns in numbers including estimation, addition, subtraction, multiplication, division, exponents, and percentages in applied context.
   Assessment 1
   Assessment Tool: Final Exam
   Assessment Date: Winter 2019
   Assessment Cycle: Every Two Years
   Course section(s)/other population: At least 2/3 of the sections - randomly selected
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% of the students will earn 75% of the points or higher on each question
   Who will score and analyze the data: Math faculty

2. Analyze relationships between numbers, and develop building blocks for functions, as well as basic probability; develop the idea of a variable in applied context.
   Assessment 1
   Assessment Tool: Final Exam
   Assessment Date: Winter 2019
   Assessment Cycle: Every Two Years
   Course section(s)/other population: At least 2/3 of the sections - randomly selected
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% of the students will earn 75% of the points or higher on each question
   Who will score and analyze the data: Math faculty

3. Apply the concepts involved in linear relationships including slope as a rate of change, and solving problems with linear equations and systems in applied context.
   Assessment 1
   Assessment Tool: Final Exam
   Assessment Date: Winter 2019
   Assessment Cycle: Every Two Years
   Course section(s)/other population: At least 2/3 of the sections - randomly selected
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% of the students will earn 75% of the points or higher on each question

Who will score and analyze the data: Math faculty

4. Apply the concepts of nonlinear relationships including normally distributed data, the Pythagorean Theorem and the distance formula. Develop other nonlinear relationships including quadratic in applied context.

Assessment 1

Assessment Tool: Final Exam
Assessment Date: Winter 2019
Assessment Cycle: Every Two Years
Course section(s)/other population: At least 2/3 of the sections - randomly selected
Number students to be assessed: All students
How the assessment will be scored: Departmentally-developed rubric
Standard of success to be used for this assessment: 75% of the students will earn 75% of the points or higher on each question
Who will score and analyze the data: Math faculty

Course Objectives

1. Draw and interpret pie charts and bar graphs.
2. Organize information in Venn Diagrams.
3. Apply estimation and addition, subtraction, multiplication and division to solve applied problems.
4. Use exponents to model exponential growth.
5. Convert units of measure by multiplying and dividing and by dimensional analysis.
6. Use measures of average to solve problems.
7. Compute and interpret basic probabilities as likely, unlikely, etc.
8. Interpret rates of change, use to solve problems, and convert them using dimensional analysis.
9. Evaluate formulas.
10. Recall and apply the steps in algebraic problem-solving.
11. Recognize the connection between linear equations, graphs, slope, intercept and rate of change.
12. Solve problems with linear equations and systems.
13. Compute and interpret standard deviation.
14. Use a normal distribution to find probabilities.
15. Use the Pythagorean Theorem to solve problems.
16. Develop and use the distance formula.
17. Recognize data that forms a parabolic graph.
18. Combine expressions using addition, subtraction, and multiplication.
19. Solve equations using the quadratic formula and observe physical phenomena that exhibit quadratic patterns.

New Resources for Course

Course Textbooks/Resources

Textbooks

Sobecki and Mercer. *Pathways to Math Literacy*, 2nd ed. McGraw Hill, 2019, ISBN: 9781260697971.

Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Leslie Gilbert	*Faculty Preparer*	*Dec 07, 2018*
Department Chair/Area Director:		

Lisa Manoukian	*Recommend Approval*	*Jan 24, 2019*
Dean:		
Kristin Good	*Recommend Approval*	*Jan 28, 2019*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Mar 05, 2019*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Mar 06, 2019*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Mar 06, 2019*