Washtenaw Community College Comprehensive Report

MTH 149 Functional Math for Elementary Teachers II
Effective Term: Winter 2018

Course Cover

Division: Math, Science and Engineering Tech
Department: Mathematics
Discipline: Mathematics
Course Number: 149
Org Number: 12200
Full Course Title: Functional Math for Elementary Teachers II
Transcript Title: Func Math for Elem Teach II
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:
Consultation with all departments affected by this course is required.
Outcomes/Assessment
Rationale: Syllabus review following an assessment
Proposed Start Semester: Winter 2018
Course Description: This course is the second in a two-course sequence presenting the mathematical concepts and problem-solving techniques necessary for success in a teaching career at the elementary school level. It is not a course solely for math teachers; rather it provides the general mathematical background for teachers of all subjects. Topics include probability, an introduction to statistics, introductory geometry, congruence and similarity and measurement concepts.

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

College-level Reading & Writing

College-Level Math

Level 3

Requisites

Prerequisite

MTH 148 minimum grade "C"

General Education

MACRAO

MACRAO Science & Math

MACRAO Sci & Math Elementary Education

General Education Area 3 - Mathematics

Assoc in Arts - Area 3

for Elementary and Early Childhood

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Solve problems using concepts related to counting and chance.

Assessment 1

Assessment Tool: Common questions on a test
Assessment Date: Winter 2020
Assessment Cycle: Every Three Years
Course section(s)/other population: All sections
Number students to be assessed: All students
How the assessment will be scored: Departmentally-created rubric
Standard of success to be used for this assessment: 75% or more of the students score a 3 or a 4, out of 4 possible points (as defined on the rubric)
Who will score and analyze the data: MTH 149 course leader

2. Effectively represent and interpret data through graphs and measures of central tendency and dispersion.

Assessment 1

Assessment Tool: Common questions on a test
Assessment Date: Winter 2020
Assessment Cycle: Every Three Years
Course section(s)/other population: All sections
Number students to be assessed: All students
How the assessment will be scored: Departmentally-created rubric
Standard of success to be used for this assessment: 75% or more of the students score a 3 or a 4, out of 4 possible points (as defined on the rubric)
Who will score and analyze the data: MTH 149 course leader

3. Identify, illustrate, and apply various properties of 2- and 3-dimensional figures.

Assessment 1

Assessment Tool: Common questions on a test
Assessment Date: Winter 2020
Assessment Cycle: Every Three Years
Course section(s)/other population: All sections

Number students to be assessed: All students
How the assessment will be scored: Departmentally-created rubric
Standard of success to be used for this assessment: 75% or more of the students score a 3 or a 4, out of 4 possible points (as defined on the rubric)
Who will score and analyze the data: MTH 149 course leader

4. Use the properties of congruence and similarity to solve problems and execute simple constructions.
   Assessment 1
   Assessment Tool: Common questions on a test
   Assessment Date: Winter 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-created rubric
   Standard of success to be used for this assessment: 75% or more of the students score a 3 or a 4, out of 4 possible points (as defined on the rubric)
   Who will score and analyze the data: MTH 149 course leader

5. Use the English and Metric systems of measurement to calculate and/or convert measurements: linear, area, perimeter, surface area and volume.
   Assessment 1
   Assessment Tool: Common questions on a test
   Assessment Date: Winter 2020
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: All students
   How the assessment will be scored: Departmentally-created rubric
   Standard of success to be used for this assessment: 75% or more of the students score a 3 or a 4, out of 4 possible points (as defined on the rubric)
   Who will score and analyze the data: MTH 149 course leader

Course Objectives

1. Identify the events, outcomes, and sample space for an experiment.
2. Create and use a probability tree to solve problems relating to counting and chance.
3. Use the multiplication and addition rule to solve probability problems.
4. Determine if events in an experiment are impossible, certain, or have equally likely outcomes.
5. Represent and interpret data through the following graphs: bar, line, frequency table, stem-and-leaf, histogram, circle, and box-and-whisker.
6. Compute the measures of central tendency (mean, median, and mode) for a data set and interpret their meaning.
7. Compute the measures of dispersion (variation, standard deviation, and range) for a data set and interpret them.
8. Identify, illustrate, and name the following 2-dimensional figures: lines, parallel lines, perpendicular lines, polygons, angles in polygons, angles formed by parallel and perpendicular lines, and angles in tessellations.
9. Use angle properties to find missing angles measures in 2-dimensional pictures involving lines, polygons, and tessellations.
10. Identify, illustrate, and name these 3-dimensional figures: prisms, pyramids, cylinders, cones, and spheres.

11. Determine if two polygons are congruent and/or similar using congruence and similarity properties
12. Use congruence and similarly properties to solve for missing sides and angles in a polygon
13. Perform the following basic Euclidean constructions: line segments, angles, perpendicular lines, angle and line bisectors, and parallel lines.
14. Convert English units to metric units and metric units to English units.
15. Calculate the area and perimeter of the following polygons: triangles, parallelograms, trapezoids.
16. Calculate the area and circumference of a circle
17. Calculate the surface area and volume of prisms, pyramids, cones, cylinders, and spheres.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Reviewer	Action	Date
Faculty Preparer:		
Nichole Klemmer	*Faculty Preparer*	*Aug 21, 2017*
Department Chair/Area Director:		
Lisa Rombes	*Recommend Approval*	*Aug 21, 2017*
Dean:		
Kristin Good	*Recommend Approval*	*Aug 23, 2017*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Oct 24, 2017*
Assessment Committee Chair:		
Michelle Garey	*Recommend Approval*	*Oct 30, 2017*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Nov 06, 2017*