Washtenaw Community College Comprehensive Report

MTH 125 Everyday College Math
Effective Term: Spring/Summer 2020

Course Cover

Division: Math, Science and Engineering Tech
Department: Math & Engineering Studies
Discipline: Mathematics
Course Number: 125
Org Number: 12200
Full Course Title: Everyday College Math
Transcript Title: Everyday College Math
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
Objectives/Evaluation
Rationale: This course is being updated because of an assessment report as well as a problem with the student learning outcomes. They were changed from the five outcomes to these four outcomes.
Proposed Start Semester: Winter 2020
Course Description: In this course, students will further their knowledge of mathematical concepts and applications they might encounter in everyday adult life. Students will explore the following topics: investing and borrowing, home loans, student loans, sets, Venn diagrams, functions, probability and statistics. The following outcomes will be addressed: interpretation of mathematical information; representation of mathematical information; calculation and communication of results; application of information, which includes making judgments and conclusions based on quantitative analysis of data; and communication of information, which includes expressing quantitative evidence in support of an argument.

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 097 minimum grade "C"
or Academic Math Level 3
or
Prerequisite
MTH 094 minimum grade "C"
or Academic Math Level 3
or

General Education

MACRAO
MACRAO Science & Math
General Education Area 3 - Mathematics
Assoc in Applied Sci - Area 3
Assoc in Science - Area 3
Assoc in Arts - Area 3
Michigan Transfer Agreement - MTA
MTA Mathematics

Request Course Transfer

Proposed For:
Central Michigan University
College for Creative Studies
Eastern Michigan University
Ferris State University
Grand Valley State University
Jackson Community College
Kendall School of Design (Ferris)
Lawrence Tech
Michigan State University
Oakland University
University of Detroit - Mercy
University of Michigan
Wayne State University
Western Michigan University

Student Learning Outcomes

1. Perform consumer finance calculations for interest, loans, annuities, and mortgages.
   Assessment 1
   Assessment Tool: Outcome-related test questions
   Assessment Date: Winter 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of 25% of students with a minimum of 50 students
   How the assessment will be scored: Departmental rubric
   Standard of success to be used for this assessment: At least 70% of students will score 75% (3 out of 4) or higher on the outcome-related questions.
   Who will score and analyze the data: Departmental faculty

2. Calculate operations on Sets and use Venn diagrams to answer questions involving "and", "or", and "not".
   Assessment 1
   Assessment Tool: Outcome-related test questions
   Assessment Date: Winter 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of 25% of students with a minimum of 50 students
   How the assessment will be scored: Departmental rubric
   Standard of success to be used for this assessment: At least 70% of students will score 75% (3 out of 4) or higher on the outcome-related questions.
   Who will score and analyze the data: Departmental faculty

3. Identify and state domain and range, graph and interpret linear, quadratic and exponential functions.
   Assessment 1
   Assessment Tool: Outcome-related test questions
   Assessment Date: Winter 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of 25% of students with a minimum of 50 students
   How the assessment will be scored: Departmental rubric
   Standard of success to be used for this assessment: At least 70% of students will score 75% (3 out of 4) or higher on the outcome-related questions.
   Who will score and analyze the data: Departmental faculty

4. Calculate and interpret statistics including measures of center and spread and predictions based on the normal curve. Calculate probabilities including those using addition and multiplication rules. Solve probability problems.
   Assessment 1
   Assessment Tool: Outcome-related test questions
   Assessment Date: Winter 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: A random sample of 25% of students with a minimum of 50 students
   How the assessment will be scored: Departmental rubric
   Standard of success to be used for this assessment: At least 70% of students will score 75% (3 out of 4) or higher on the outcome-related questions.
   Who will score and analyze the data: Departmental faculty

Course Objectives

1. Solve problems relating to compound interest. Calculate compound interest on savings and annuities and compare earnings from simple versus compound interest.
2. Solve problems relating to mortgages. Calculate mortgage payments including tax and insurance liabilities and amortization tables.
3. Find annual percentage interest rate for purchases such as rent-to-own and payday loans.
4. Solve problems involving and, or, and not with a Venn diagram.
5. Calculate measures of central tendency: mean, median and mode.
6. Solve problems relating to probability. Calculate probability of events, using multiplication and addition rules.
7. Calculate monthly personal budget amounts under stated criteria.
8. Calculate compound interest on savings and annuities, and compare earnings from simple versus compound interest.

9. Calculate measures of spread: variance, range and standard deviation, and use to draw conclusions and comparisons between data sets.
10. Find z-values for specific data values and probabilities for given z-values and data values. Use z-values to make decisions about data values.
11. Calculate conditional probabilities.
12. Calculate rounded values for financial calculation, including intermediate rounding of calculations where necessary.
13. Represent information given in a problem with a Venn diagram.
14. Represent linear models in various ways: table, equation or graph.

New Resources for Course

Course Textbooks/Resources

Textbooks

Sobecki. *Mathematics in our World*, 4 ed. McGraw Hill, 2018

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Laura Perez	*Faculty Preparer*	*Sep 26, 2019*
Department Chair/Area Director:		
Lisa Manoukian	*Recommend Approval*	*Sep 26, 2019*
Dean:		
Victor Vega	*Recommend Approval*	*Sep 26, 2019*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Oct 31, 2019*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Nov 08, 2019*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Nov 08, 2019*

Washtenaw Community College Comprehensive Report

MTH 125 Everyday College Math
Effective Term: Winter 2015

Course Cover

Division: Math, Science and Health
Department: Mathematics
Discipline: Mathematics
Course Number: 125
Org Number: 12200
Full Course Title: Everyday College Math
Transcript Title: Everyday College Math
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.
Course description
Pre-requisite, co-requisite, or enrollment restrictions
Outcomes/Assessment
Objectives/Evaluation
Rationale: Revisions to satisfy Michigan Transfer Agreement.
Proposed Start Semester: Winter 2015
Course Description: In this course, students will further the mathematical knowledge of concepts and applications they might encounter in everyday adult life. Topics will include four main subject areas: advanced consumer math and formulas (mortgage interest, compound interest, loans and credit cards), Logic and Sets (sets and operations, Venn Diagrams), applications of Algebra (ratio and proportion; modeling) and statistics (probability, measures of center and spread, the normal curve).

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 097 minimum grade "C"
or Academic Math Level 3

General Education

MACRAO
MACRAO Science & Math
General Education Area 3 - Mathematics
Assoc in Applied Sci - Area 3
Assoc in Science - Area 3
Assoc in Arts - Area 3
Michigan Transfer Agreement - MTA
MTA Mathematics

Request Course Transfer

Proposed For:
Central Michigan University
College for Creative Studies
Eastern Michigan University
Ferris State University
Grand Valley State University
Jackson Community College
Lawrence Tech
Michigan State University
Oakland University
University of Detroit - Mercy
University of Michigan
Wayne State University
Western Michigan University

Student Learning Outcomes

1. Perform consumer finance calculations including interest, loans, annuities, stock market purchases and mortgage calculations.
   Assessment 1
   Assessment Tool: Departmentally-developed common questions
   Assessment Date: Winter 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: 40 students from at least three sections representing three instructors, randomly selected using a random number generator
   Number students to be assessed: 40
   How the assessment will be scored: answer key
   Standard of success to be used for this assessment: The mean grade on the assessed questions will be at least 75%.
   Who will score and analyze the data: department faculty

2. Calculate operations on Sets and use Venn Diagrams to answer questions involving and, or, and not.
   Assessment 1
   Assessment Tool: Departmentally-developed common questions
   Assessment Date: Winter 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: 40 students from at least three sections representing three instructors, randomly selected using a random number generator
   Number students to be assessed: 40
   How the assessment will be scored: answer key
   Standard of success to be used for this assessment: The mean grade on the

assessed questions will be 75% or higher.
Who will score and analyze the data: department faculty

3. Set up and solve proportions in applied context. Solve direct and inverse variation applications. Identify, state domain and range, graph, and interpret linear, quadratic, and exponential functions.
   Assessment 1
   Assessment Tool: Departmentally-developed common questions
   Assessment Date: Winter 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: 40 students from at least three sections representing three instructors, randomly selected using a random number generator
   Number students to be assessed: 40
   How the assessment will be scored: answer key
   Standard of success to be used for this assessment: The mean grade on the assessed questions will be 75% or higher.
   Who will score and analyze the data: department faculty

4. Calculate and interpret statistics including measures of center and spread and predictions based on the normal curve. Calculate probabilities including those using addition and multiplication rules. Calculate permutations and combinations and use them to solve probability problems.
   Assessment 1
   Assessment Tool: Departmentally-developed common questions
   Assessment Date: Winter 2015
   Assessment Cycle: Every Three Years
   Course section(s)/other population: 40 students from at least three sections representing three instructors, randomly selected using a random number generator
   Number students to be assessed: 40
   How the assessment will be scored: answer key
   Standard of success to be used for this assessment: The mean grade on assessed questions will be 75% or higher.
   Who will score and analyze the data: department faculty

Course Objectives

1. Solve problems relating to compound interest. Calculate compound interest on savings and annuities and compare earnings from simple versus compound interest.
   Matched Outcomes
2. Solve problems relating to mortgages. Calculate mortgage payments including tax and insurance liabilities and amortization tables.
   Matched Outcomes
3. Find Annual Percentage Interest Rate for purchases such as rent-to-own and payday loans.
   Matched Outcomes
4. Read a stock listing and calculate net gain or loss including commissions and sales charges.
   Matched Outcomes
5. Solve problems involving and, or, and not with a Venn Diagram.
   Matched Outcomes
6. Solve proportions in applied context.
   Matched Outcomes
7. Solve inverse and direct variation problems in applied context.
   Matched Outcomes
8. Interpret, graph, and identify characteristics of linear, quadratic, and exponential models in applied context.
   Matched Outcomes
9. Solve problems relating to probability. Calculate probability of events, using multiplication and addition rules.
   Matched Outcomes
   4. Calculate and interpret statistics including measures of center and spread and

predictions based on the normal curve. Calculate probabilities including those using addition and multiplication rules. Calculate permutations and combinations and use them to solve probability problems.

10. Calculate permutations and combinations and use the results to calculate probabilities.
    Matched Outcomes
11. Calculate measures of central tendency and spread. Calculate mean, median and mode, variance, range and standard deviation.
    Matched Outcomes
    4. Calculate and interpret statistics including measures of center and spread and predictions based on the normal curve. Calculate probabilities including those using addition and multiplication rules. Calculate permutations and combinations and use them to solve probability problems.
12. Solve problems relating to the normal distribution. Find z-values for specific data values and probabilities for given z-values and data values.
    Matched Outcomes
    4. Calculate and interpret statistics including measures of center and spread and predictions based on the normal curve. Calculate probabilities including those using addition and multiplication rules. Calculate permutations and combinations and use them to solve probability problems.

New Resources for Course

Course Textbooks/Resources

Textbooks

Sobecki. *Mathematics in our World*, 3 ed. McGraw Hill, 2014

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Lisa Rombes	*Faculty Preparer*	*Mar 12, 2014*
Department Chair/Area Director:		
Michael King	*Recommend Approval*	*Apr 04, 2014*
Dean:		
Martha Showalter	*Recommend Approval*	*Apr 25, 2014*
Vice President for Instruction:		
Bill Abernethy	*Approve*	*Sep 23, 2014*