Washtenaw Community College Comprehensive Report

MTH 034 Foundations of Numeracy
Effective Term: Spring/Summer 2015

Course Cover

Division: Math, Science and Health
Department: Mathematics
Discipline: Mathematics
Course Number: 034
Org Number: 12200
Full Course Title: Foundations of Numeracy
Transcript Title: Foundations of Numeracy
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:
Pre-requisite, co-requisite, or enrollment restrictions
Rationale: Change ACS101 from co-requisite to pre-requisite so that students who successfully complete acs101 but do not successfully complete mth034 do not need to retake acs101 when they retake mth034.
Proposed Start Semester: Spring/Summer 2015
Course Description: In this first course in the developmental math sequence, students will develop their number sense and master the four basic operations. Topics of this course include addition, subtraction, multiplication, and division of whole numbers, integers, decimals, fractions. Other topics include rounding, prime numbers, factorization, and inequalities. Students who complete this course with a "C" or better are eligible to enroll in MTH 067.

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

No Level Required

Requisites

Prerequisite
Academic Reading Level 4
and
Prerequisite

no minimum writing level
and
Prerequisite
Academic Math Level 0, no higher than level 1
Prerequisite
ACS 101; may enroll concurrently
and

General Education

Degree Attributes
Below College Level Pre-Reqs

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Calculate mentally, problems involving addition, subtraction, multiplication, and division (without remainder), of one digit-by-one digit whole numbers and integers from the 0 through 9 tables.
   Assessment 1
   Assessment Tool: common final exam
   Assessment Date: Fall 2014
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: Random sample of a minimum of 30 students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: At least 75% of students sampled will score at the 100% level.
   Who will score and analyze the data: A member of the math faculty will be chosen to blind-score the tests.

2. Calculate problems involving addition, subtraction, multiplication, and division of whole numbers, integers, fractions, and decimals.
   Assessment 1
   Assessment Tool: common final exam
   Assessment Date: Fall 2014
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: Random sample of a minimum of 30 students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: At least 75% of students sampled will score at the 75% level.
   Who will score and analyze the data: A member of the math faculty will be chosen to blind-score the tests.

3. Identify inequalities involving whole numbers, integers, and fractions.
   Assessment 1
   Assessment Tool: common final exam
   Assessment Date: Fall 2014
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All sections
   Number students to be assessed: Random sample of a minimum of 30 students
   How the assessment will be scored: Departmentally-developed rubric
   Standard of success to be used for this assessment: At least 75% of students sampled will score at the 75% level.

Who will score and analyze the data: A member of the math faculty will be chosen to blind-score the tests.

Course Objectives

1. Master 0 through 9 addition tables (100% proficiency).
   Matched Outcomes
   1. Calculate mentally, problems involving addition, subtraction, multiplication, and division (without remainder), of one digit-by-one digit whole numbers and integers from the 0 through 9 tables.
2. Master 0 through 9 subtraction tables (100% proficiency).
   Matched Outcomes
   1. Calculate mentally, problems involving addition, subtraction, multiplication, and division (without remainder), of one digit-by-one digit whole numbers and integers from the 0 through 9 tables.
3. Master 0 through 9 multiplication tables (100% proficiency).
   Matched Outcomes
   1. Calculate mentally, problems involving addition, subtraction, multiplication, and division (without remainder), of one digit-by-one digit whole numbers and integers from the 0 through 9 tables.
4. Master division tables involving reversing the 0 through 9 multiplication table (100% proficiency).
   Matched Outcomes
   1. Calculate mentally, problems involving addition, subtraction, multiplication, and division (without remainder), of one digit-by-one digit whole numbers and integers from the 0 through 9 tables.
5. Calculate problems involving addition of whole numbers, integers, fractions, mixed numbers, and decimals by hand, and use rounding to estimate answers.
   Matched Outcomes
6. Calculate problems involving subtraction of whole numbers, integers, fractions, mixed numbers, and decimals by hand, and use rounding to estimate answers.
   Matched Outcomes
7. Calculate problems involving multiplication of whole numbers, integers, fractions, mixed numbers, and decimals by hand, and use rounding to estimate answers.
   Matched Outcomes
8. Calculate problems involving division of whole numbers, integers, fractions, mixed numbers, and decimals by hand, and use rounding to estimate answers.
   Matched Outcomes
9. Determine whether a number is prime or composite.
   Matched Outcomes
10. Find the prime factorization of a two digit number.
    Matched Outcomes
11. Find all factors of a two digit number.
    Matched Outcomes
12. Distinguish the difference between withdrawal and deposit and their effect on the balance.
    Matched Outcomes
13. Correctly identify the place value of a given digit in a decimal number.
    Matched Outcomes
14. Convert between mixed numbers and improper fractions.
    Matched Outcomes
15. Know the values of U.S. coins and be able to convert between different denominations.
    Matched Outcomes
16. Memorize and use the formula for the area of a rectangle.
    Matched Outcomes
17. Calculate problems involving exponents with both positive and negative bases.
    Matched Outcomes
18. Find the square root of a perfect square.
    Matched Outcomes
19. Given three line segments A, B, and C, such that, the length of A = B + C, and given the

lengths of A and B, find the length of the line segment C.
Matched Outcomes

20. Convert a fraction to a decimal and vice versa.
Matched Outcomes
21. Find the absolute value of a number.
Matched Outcomes
22. Graph an integer on the number line.
Matched Outcomes
23. Identify inequalities involving whole numbers.
Matched Outcomes
24. Identify inequalities involving integers.
Matched Outcomes
25. Identify inequalities involving fractions.
Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks
Miller O'Neill Hyde. *Prealgebra*, 1st ed. New York: McGraw-Hill, 2011, ISBN: 007745796X.
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer	Action	Date
Faculty Preparer:		
Jason Davis	*Faculty Preparer*	*Mar 27, 2015*
Department Chair/Area Director:		
Lisa Rombes	*Recommend Approval*	*Mar 29, 2015*
Dean:		
Kristin Brandemuehl	*Recommend Approval*	*Apr 01, 2015*
Vice President for Instruction:		
Bill Abernethy	*Approve*	*Apr 27, 2015*