

**COURSE OUTLINE**  
**MT. HOOD COMMUNITY COLLEGE DISTRICT**  
**Gresham, Oregon 97030**

\* New \_\_\_\_\_  
 \* Revised 04/25/07  
 \* Review only (no changes) \_\_\_\_\_  
 (Date)

\* Please check appropriate box:  
 Lower Division Collegiate  
 Occupational Supplementary

Occupational Preparatory  
 Other Education, Including  
 General Ed & Adult Ed

COURSE TITLE Conceptual Arithmetic

COURSE NUMBER MTH10 COURSE CREDIT 4

\* Lecture Hours 3 | 30 Lab Hours 2 | 20 Seminar Hours \_\_\_\_\_  
 Wkly/Term Wkly/Term Wkly/Term

\* GRADING STATUS:  
 Letter Grade Only  
 S/U Only  
 Optional  
 No Grade

\* HEADCOUNT LOADING:  
 Yes  
 No \* Factor \_\_\_\_\_

Guided Studies Requirement:  
 Student must be proficient in:  
 Reading (RD90)  
 Writing (WR90)  
 Mathematics (MTH20)  
 Not applicable

For Instruction Office Use Only General Education Category Apply general requirement or distribution to: AA _____ AS _____ AS/OT-Bus _____ AAS _____ AGS _____ VP Approval _____ Date _____		
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Mathematics Department 04/25/07

1) Prepared by \_\_\_\_\_ Date \_\_\_\_\_  
 2) Approved by Distance Education Admin. \_\_\_\_\_ Date \_\_\_\_\_  
 3) Approved by Department Chair \_\_\_\_\_ Date \_\_\_\_\_

4) Approved by Dean \_\_\_\_\_ Date \_\_\_\_\_  
 5) Curriculum Committee \_\_\_\_\_ Date \_\_\_\_\_  
 6) Approved by VP of Instruction \_\_\_\_\_ Date \_\_\_\_\_

\* See legend/definition for explanation

**COURSE DESCRIPTION:** (for catalog)  
 This course is intended for students who need to master the concepts of whole numbers, fractions or decimals. The emphasis of the course is on understanding concepts, estimation, simple measurement, language usage, and reasoning skills. Real world applications are used and the reasonableness of answers is stressed. Calculator use is taught for computation. A scientific calculator with a fraction key, algebraic logic and expression playback is required. A specific model of calculator may be required.

**PREREQUISITE:**  
 Students must be either concurrently enrolled in RD 90 and WR 90, or place above those levels.

**INSTRUCTIONAL MATERIALS REQUIRED OF STUDENT: (text, supplies, etc.)**

Textbook, scientific calculator with fraction capability, algebraic logic and expression playback. Ruler with inches and centimeters

**STUDENT LEARNING OUTCOMES:**

Upon successful completion of this course, the student will be able to:

1. **Communicate** effectively (orally and in writing) a problem solving process, results, and conclusions using mathematical terminology and correct mathematical syntax.
2. Determine if a solution is **reasonable** and verify results.
3. Use **mathematical symbols** to represent and answer questions about real situations, including addition, subtraction, multiplication, division, fractions, percents, and money.
4. Use and explain the **base ten place value** system, including rounding.
5. Demonstrate an understanding of addition, subtraction, multiplication and division by choosing a correct **operation** or series of operations in an application context.
6. Complete **basic arithmetic calculations** and comparisons mentally (including exponents, square roots, single-digit multiplication, and operations with powers of ten).
7. **Estimate** values of all calculations covered in this course.
8. Translate **large numbers** and **decimals** between word form and numerical form.
9. Create and interpret **fraction models**, including: shaded figures, number lines, ruler readings, simple probabilities, fraction of a total and division
10. Complete **basic fractions computations** with appropriate models and real world applications (including reducing, equivalent, converting between improper and mixed number forms, adding, subtracting, multiplying, and dividing.)
11. Without calculating, **compare** a fraction or numerical expression involving fractions to one-half, one and two, and explain the relationship.
12. Model **decimal numbers** using place value, money, fractions, and metric rulers.
13. Identify **terms and factors** in an expression and evaluate the expression showing steps.
14. Use a **calculator** with one-step entry to simplify expressions, adding parentheses as needed.
15. **Measure** accurately using inches, centimeters, and millimeters.
16. Model **percents** using real situations and pictures.
17. **Convert** among equivalent forms of fractions, decimals, and percents.
18. Compute answers to **percent** problems using common fraction equivalents and reasoning.

**EVALUATION PROCESS:**

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Passing this course with a C or better serves as a prerequisite for Math 20.

Grades are based on a balanced variety of grading opportunities spread throughout the term. Although a student may not experience every method below, a variety of assessment methods will be used by the instructor. Student evaluation will include problems or activities that incorporate and integrate several outcomes, and closely resemble situations that exist in the real world.

- Worksheets
- Projects
- In-class Individual Exams
- In-class Team Exams
- Take-Home Individual Exams
- Take-Home Team Exams
- Writing Assignments
- Daily Homework
- Attendance
- Student collaboration (teamwork)/Participation