

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 Applied Arithmetic and Pre-algebra

COURSE NUMBER MTH20 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 _____		
--	--	--

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 both the career technical and baccalaureate prep student. It includes the use of mathematics as a language, rational number operations, estimating and approximating, scientific notation, ratios, percents, proportions, the metric and US Customary systems, formula development and evaluation, and practical geometry. A scientific/graphing calculator with fraction output capabilities is required and its use is fully integrated in the course. A specific model of calculator may be required.

PREREQUISITE:
 MTH 10, or suitable performance on the mathematics placement exam.

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

Text. Scientific/graphing calculator

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, like ratios, measurements, writing expressions, etc.
4. Complete **basic arithmetic calculations** and comparisons mentally (including square roots, common fraction-decimal-percent equivalents, single-digit multiplication, and operations with powers of ten).
5. **Estimate** values (including one-step calculations, fractions, percents, square roots).
6. Determine which of two quantities (numerical expressions, measurements, fractions, ratios) **is bigger** conceptually (without calculating) and explain the choice by talking about the operation or the physical meaning.
7. Translate between and compute with **large numbers** given in word form, scientific notation, or numerical form.
8. Identify **terms** in an expression and evaluate the expression showing steps.
9. Use a **calculator** with one-step entry to simplify expressions, adding parentheses as needed.
10. Determine (with explanations) the results of sums, differences, products, and quotients of **positive & negative numbers**.
11. Define, apply, estimate, and calculate **perimeters and areas** of rectangles, triangles, circles, and compound figures, including appropriate units.
12. **Measure** accurately using inches and centimeter rulers.
13. Draw pictures and/or use **fraction pieces** to represent fractions and fraction arithmetic problems.
14. Complete **basic fractions computations** with explanations and/or pictures (including reducing, building, equivalent, fraction of, converting between improper and mixed number forms, adding, subtracting, multiplying, and dividing).
15. **Mentally** compute exact answers to **percent** problems by moving the decimal (10%), halves (50%), and combinations thereof.
16. Compute exact answers to **percent** problems using technology. Write the expression that gives the correct answer and interpret the answer.
17. Use variables as abbreviations and include units everywhere to **prepare for algebra**.

EVALUATION PROCESS:

Passing this course with a C or better serves as a prerequisite for Math 60.

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