Faculty are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Collegewide Curriculum Committee.

DEPT.: Math                          COURSE NO.: 0092

NUMBER OF CREDITS: 2

COURSE TITLE: Essentials of Mathematics – Pre-Algebra

CATALOG DESCRIPTION: Assists students in developing a thorough understanding of basic mathematics. Intuition and sound mathematical techniques are used to analyze and solve problems in fractions, decimals, ratios, proportions and percentages. Metric geometry is also covered and an introduction to algebra. This is NOT considered a transfer course.

AUDIENCE:

FULFILLS MN TRANSFER CURRICULUM AREA(S) \textit{(Leave blank if not applicable)}

Area : by meeting the following competencies:
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PREREQUISITES OR NECESSARY ENTRY SKILLS/KNOWLEDGE: None

LENGTH OF COURSE: 1 semester

THIS COURSE IS USUALLY OFFERED:
Every other year \(\square\) fall \(\checkmark\) spring \(\checkmark\) summer \(\square\) undetermined \(\square\)

Four goals are emphasized in course at Minnesota West Community & Technical College:

1) ACADEMIC CONTENT:
   a) to obtain a mastery of arithmetic skills of rational numbers
   b) to have an understanding of how arithmetic skills can be applied in problem solving
   c) to obtain a mastery of geometric measures
   d) to explore an introduction to algebraic equations and problems
   e) to explore introductory statistical calculations

2) THINKING SKILLS:
   a) developing a practical problem-solving approach to basic mathematics
   b) analyzing data and applying it to real life situations
   c) examining techniques to improve your mathematical estimation skills
   d) by solving mathematical problems using arithmetic, geometry elementary statistics and introductory algebra

3) COMMUNICATIONS SKILLS:
   a) writing short verbal expressions of arithmetic and algebraic algorithms
   b) sharing with others in a group concerning skill and problem solving development
   c) writing or discussing solutions to mathematical problems in a concise manner

4) HUMAN DIVERSITY:
a) solving problems in different groups to understand the points of view of others

TOPICS TO BE COVERED:

a) whole numbers
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

b) fractions and mixed numbers
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

c) decimal notations
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

d) ratio, proportion and unit analysis
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

e) percents, percent increase and percent decrease
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

f) introduction to algebra
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

    g) solving equations in one variable
    incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
    statistics, writing mathematics and a glimpse of algebra

Supplemental:

h) geometry and measures: length and area, volume and Pythagorean theorem, circumference, volume of right
   cylinder and sphere, physical weights and conversions,

i) the real-number system and its properties
   incorporated as applicable: applications, geometry and measures, mapping, data tables, charts, descriptive
   statistics, writing mathematics and a glimpse of algebra

LIST OF EXPECTED COURSE OUTCOMES:

LEARNING/TEACHING TECHNIQUES used in the course are:

☑ Collaborative Learning    ☑ Problem Solving
☑ Student Presentations     ☑ Interactive Lectures
☑ Creative Projects         ☑ Individual Coaching
☑ Lecture                  ☐ Films/Videos/Slides
☑ Demonstrations            ☑ Other (describe below)
☐ Experimental Labs         ☐ Project Critiques

ASSIGNMENTS AND ASSESSMENTS FOR THIS CLASS INCLUDE:

☑ Reading                    ☑ Tests, Quizzes                ☑ Individual Projects
☑ Oral Presentations         ☐ Worksheets                   ☑ Collaborative Projects
☑ Textbook Problems          ☐ Papers                        ☐ Portfolio
☑ Group Problems             ☐ Term Paper
☑ Other (describe below)
Journal Writing

EXPECTED STUDENT LEARNING OUTCOMES:

The information in this course outline is subject to revision

To receive reasonable accommodations for a documented disability, please contact the campus Student Services Advisor or campus Disability Coordinator as arrangements must be made in advance. In addition, students are encouraged to notify their instructor.

Veteran Services: Minnesota West is dedicated to assisting veterans and eligible family members in achieving their educational goals efficiently. Active duty and reserve/guard military members should advise their instructor of all regularly scheduled military appointments and duties that conflict with scheduled course requirements. Instructors will make every effort to work with the student to identify adjusted timelines. If you are a veteran, please contact the Minnesota West Veterans Service Office.

This document is available in alternative formats to individuals with disabilities by contacting the Student Services Advisor or by calling 800-658-2330 or Minnesota Relay Service at 800-627-3529 or by using your preferred relay service.

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