COURSE SYLLABUS

LAST REVIEW   Spring 2021

COURSE TITLE   Math Essentials

COURSE NUMBER   MATH0097

DIVISION   Math, Science, Business & Technology

DEPARTMENT   Mathematics

CIP CODE   24.0101

CREDIT HOURS   3

CONTACT HOURS/WEEK Class: 3

PREREQUISITES   None

COURSE PLACEMENT   Students must meet the correct placement measure for this course. Information may be found at: https://www.kckcc.edu/admissions/information/mandatory-evaluation-placement.html

COURSE DESCRIPTION
Math Essentials emphasizes skill building in the operations of basic addition, subtraction, multiplication, and division as they relate to whole numbers, fractions, and decimals. These basic skills are then applied to the areas of ratio and proportion, percents, measurement, basic geometric concepts, and statistics. Algebra is introduced with the study of signed numbers, algebraic expressions, and basic equations. Students will be expected to use appropriate technology as one tool to achieve competency in Math Essentials.

General Education Learning Outcome
☐ Basic Skills for Communication
☒ Mathematics
☐ Humanities
☐ Natural and Physical Sciences
☐ Social and Behavioral Sciences

Institutional Learning Outcomes
☐ Communication
☒ Computation and Financial Literacy
☒ Critical Reasoning
☒ Technology and Information Literacy
☐ Community and Civic Responsibility

☐ Personal and Interpersonal Skills

TEXTBOOKS
http://kckccbookstore.com/

METHODS OF INSTRUCTION
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE
    I.   Arithmetic Calulations
        A. Whole numbers
        B. Fractions
        C. Decimals
        D. Exponential notation
        E. Order of operations
        F. Equivalent fractions
        G. Conversion among fractions, decimals, and percents
    II.   Number System Skills
        A. Reading and writing numbers
        B. Rounding
        C. Ratios
   III. Applications
        A. Whole numbers, fractions, and decimals
        B. Rates and ratios
        C. Proportions
        D. Percent
   IV. Measurement and Geometric Formulas
        A. American units of measure
        B. Metric units of measure
        C. Perimeter/circumference
        D. Area
        E. Volume
        F. Pythagorean theorem
    V.   Statistical Data
        A. Mean, median, and mode
        B. Grade point average
        C. Tables and pictographs
        D. Bar, line, and circle graphs
   VI. Signed Numers
        A. Addition, subtraction, multiplication, and division

      B. Order of operations
VII.   Linear Equations
      A. Algebraic expressions
      B. Distributive property
      C. Solutions of linear equations

COURSE LEARNING OUTCOMES AND COMPETENCIES
Upon successful completion of this course, the student will be able to:

A. Perform arithmetic calculations.
1. add, subtract, multiply, and divide whole numbers.
2. add, subtract, multiply, and divide fractions.
3. add, subtract, multiply, and divide decimals.
4. use exponential notation.
5. to apply order of operations.
6. convert among fractions, decimals, and percents.Solve equations and inequalities.
B. Demonstrate skills using the number system.
7. read and write numbers.
8. round and estimate numbers.
9. use ratio notation and recognize equivalent ratios.graph linear equations using the y-intercept and slope.
C. Solve applications.
10. solve application problems involving whole numbers, fractions, and decimals.
11. solve rate and ratio problems.
12. solve proportions including similar figures applications.
13. solve percent applications.determine whether or not an equation is linear.
D. Use measurements and geometric formulas
14. convert and use American measures.
15. convert and use metric measures.
16. convert between American and metric measures.
17. calculate the perimeter and circumference of various geometric figures.
18. calculate the area of various geometric figures.
19. calculate the volume of various geometric figures.
20. apply the Pythagorean Theorem.
E. Calculate and analyze statistical data.
21. determine statistical measures of mean, median, and mode.
22. calculate grade point average (GPA).
23. interpret tables and pictographs.
24. interpret bar, line, and circle graphs.
F. Calculate using signed numbers.
25. add, subtract, multiply, and divide signed numbers.
26. apply order of operations.

G. Solve basic linear equations.
   27. simplify algebraic expressions.
   28. apply the distributive property.
   29. a linear equation of the form $ax + b = c$.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES
Student Handbook
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog
https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements
https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.