COURSE OUTLINE OF RECORD

Number: MATH G100 **TITLE:** Liberal Arts Mathematics

ORIGINATOR: Gary Kirby
EFF TERM: Fall 2025
FORMERLY KNOWN AS:
DATE OF OUTLINE/REVIEW: 05-07-2024
CROSS LISTED COURSE:
TOP NO: 1701.00
CID:

SEMESTER UNITS: 3.0
HRS LEC: 54.0 **HRS LAB:** 0.0 **HRS OTHER:** 0.0
CONTACT HRS TOTAL: 54.0
STUDY NON-CONTACT HRS RECOMMENDED: 108.0
TOTAL STUDENT LEARNING HRS: 216.0
CATALOG DESCRIPTION:

This course expands upon a student's current algebraic skill set offering liberal arts students an applications-oriented, problem-solving exploration into a variety of mathematical fields including geometry, statistics, algebra, and business mathematics. The course is designed not only to meet college general education requirements but to help generate a positive attitude toward, and an interest in, mathematics.

JUSTIFICATION FOR COURSE:
PREREQUISITES:

- Course taught at the level of intermediate algebra or appropriate math placement.

COREQUISITES:
ADVISORIES:
ASSIGNED DISCIPLINES:
Mathematics
MATERIAL FEE: Yes [ ] No [X] Amount: $0.00
CREDIT STATUS: Noncredit [ ] Credit - Degree Applicable [X] Credit - Not Degree Applicable [ ]
GRADING POLICY: Pass/No Pass [ ] Standard Letter [X] Not Graded [ ] Satisfactory Progress [ ] P/NP/SP Noncredit [ ] Letter Noncredit [ ]
OPEN ENTRY/OPEN EXIT: Yes [ ] No [X]
TRANSFER STATUS: CSU Transferable[ ] UC/CSU Transferable[X] Not Transferable[ ]
BASIC SKILLS STATUS: Yes [ ] No [X] **LEVELS BELOW TRANSFER:** Not Applicable
CALIFORNIA CLASSIFICATION CODES: Y - Not Applicable
NON CREDIT COURSE CATEGORY: Y - Not applicable, Credit Course
OCCUPATIONAL (SAM) CODE: E
REPEATABLE ACCORDING TO STATE GUIDELINES: No [X] Yes [ ] NUMBER REPEATS:
CB25 GENERAL EDUCATION STATUS: B = CSU B4, UC IGETC 2 OR GE Math/Quant Reason w/ 4-year
CB26 SUPPORT COURSE STATUS: N = Not a support course
REQUIRED FOR DEGREE OR CERTIFICATE: No [ ] Yes [X]
Liberal Arts: Emphasis in Mathematics (Associate in Arts)
Liberal Studies for Elementary Education (Associate in Arts)
University Core (Certificate of Achievement)
GE AND TRANSFER REQUIREMENTS MET:

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning
2A: Mathematic
CSU GE Area B: Scientific Inquiry and Quantitative Reasoning
B4 - Mathematics/Quantitative Thinking

COURSE LEVEL STUDENT LEARNING OUTCOME(S) Supported by this course:

1. Calculate mean, median, and mode from a given set of data.
2. Use various formulas to solve financial problems related to house mortgages.
3. Use the U.S. customary and metric measurement systems to solve for the surface area of geometric figures.

COURSE OBJECTIVES:

1. Use truth tables to verify symbolic statements.
2. Use various formulas to manage and plan for long-term financial goals.
3. Use the U.S. customary and metric measurement systems to analyze geometric figures.
4. Utilize various aspects of probability and statistics to solve problems relating to games of chance and other real-world applications.
5. Analyze and solve linear, quadratic, and exponential equations.

COURSE CONTENT:

LECTURE CONTENT:

A. Logic
   1. Simple and compound statements
   2. Negations, conjunctions, disjunctions, conditional, and biconditional statements
   3. Truth tables
B. Consumer Mathematics
   1. Percents
   2. Simple and compound interest
   3. Installment buying and cost of home ownership
C. Measurement
   1. Measuring length and the Metric System
   2. Measuring area and volume
   3. Measuring weight and temperature
   4. Exponents and scientific notation
D. Geometry
   1. Points, lines, planes, and angles
   2. Triangles, circles, and other polygons
   3. Perimeter and circumference
   4. Area and volume
E. Counting methods and probability
   1. The Fundamental Counting Principle
   2. Permutations and combinations
   3. Fundamentals of probability
   4. Events involving Not, And, and Or
F. Statistics
   1. Sampling, frequency distributions, and graphs
   2. Measures of central tendency
   3. Measures of dispersion
   4. The normal distribution and its applications
G. Algebra concepts

1. Linear equations and inequalities
2. Applications of linear equations and inequalities
3. Rational and quadratic equations

H. Graphs, functions, and systems
1. Linear functions, graphs, and models
2. Quadratic functions, graphs, and models
3. Exponential and logarithmic functions, graphs, and models
4. Systems of equations and inequalities

METHODS OF INSTRUCTION:

A. Lecture:
B. Online:
C. Independent Study:
D. Hybrid:

INSTRUCTIONAL TECHNIQUES:

COURSE ASSIGNMENTS:

Reading Assignments

Text and instructor handouts.

Writing Assignments

Students will demonstrate problem solving skills when they write their own solutions to regular homework problems and assessment problems.

Out-of-class Assignments

Instructor assigned homework and projects.

METHODS OF STUDENT EVALUATION:

Midterm Exam
Final Exam
Short Quizzes
Written Assignments
Essay Examinations
Objective Examinations
Report
Projects (ind/group)
Problem Solving Exercises
Oral Presentations
Skills Demonstration

Demonstration of Critical Thinking:

Students will demonstrate critical thinking and problem-solving skills by using logic, in conjunction with past mathematical solving techniques, to solve and interpret a variety of applications not previously seer Such applications range from computing compound interest in consumer mathematics, computing area and/or perimeter of geometrical objects, to calculating frequency distributions for statistical models. Demonstrations will be shown by completing assignments, participating in discussions, and completing required assessments.

Required Writing, Problem Solving, Skills Demonstration:

Students will demonstrate problem solving skills when they write their own solutions to regular homewor problems and assessment problems.

TEXTS, READINGS, AND RESOURCES:

TextBooks:

1. Angel, Abbott & Runde. *A Survey of Mathematics with Applications*, 11th ed. Pearson, 2021

2. Miller, Charles. *Mathematical Ideas*, 15th ed. Pearson, 2023

LIBRARY:

Adequate library resources include:

Comments:

Attachments:

Attached Files