# GAVILAN ✈ COLLEGE

5055 Santa Teresa Blvd
Gilroy, CA 95023

# Course Outline

COURSE: MATH 700        DIVISION: 90        ALSO LISTED AS:

TERM EFFECTIVE: Fall 2018                CURRICULUM APPROVAL DATE: 02/26/2018

SHORT TITLE: ARITHMETIC

LONG TITLE: Arithmetic

| Units | Number of Weeks | | Contact Hours/Week | | Total Contact Hours |
| --- | --- | --- | --- | --- | --- |
| 0 | 18 | Lecture: | 3 | Lecture: | 54 |
| | | Lab: | 1 | Lab: | 18 |
| | | Other: | 0 | Other: | 0 |
| | | Total: | 4 | Total: | 72 |

**COURSE DESCRIPTION:**

This course covers arithmetic procedures with whole numbers, fractions, decimals, order of operations, ratios, proportions, percent, integers, measurements and geometry. This course may be offered in an open entry/open exit format.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: N - Non Credit

GRADING MODES
        N - Non Credit

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:
        02 - Lecture and/or discussion
        03 - Lecture/Laboratory
        04 - Laboratory/Studio/Activity
        046 - Laboratory - LEH 0.6

**STUDENT LEARNING OUTCOMES:**
1. Demonstrate proficiency with operations on whole numbers, fractions, mixed numbers, and decimals.
Measure of assessment: Homework, exam

Year assessed, or planned year of assessment: 2018

Semester: Fall

2. Demonstrate proficiency with ratios, proportions, percent, and operations on integers.

Measure of assessment: Homework, exam

3. Determine and apply the appropriate methods to problems involving geometry.

Measure of assessment: Homework, exam

4. Convert between equivalent forms of numbers and units of measurement.

Measure of assessment: Homework, exam

Institution Outcome Map

5. Demonstrate problem-solving ability.

**CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS**

Curriculum Approval Date: 02/26/2018

WHOLE NUMBERS

12 HOURS

CONTENT: Place value of each digit in a whole number, whole numbers in words and standard form, expanded form of a whole number, operations with whole numbers, rounding whole numbers, estimating sums, differences, and products of whole numbers, factors and products, prime factorization of a number, properties of addition, subtraction, multiplication, and division, long division on whole numbers, repeated factors using exponential notation, order of operations in expressions involving addition, subtraction, multiplication, division, and exponents of whole numbers, whole number expressions and their use in applications.

**OUT OF CLASS ASSIGNMENTS:** Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will memorize place values for whole numbers and round whole numbers to correct place values. They will add, subtract, multiply, and divide whole numbers. Students will evaluate exponential expressions with whole numbers and utilize the order of operations with whole numbers. Students will understand the concept of a prime number and compute the prime factorization of a number.

FRACTIONS AND MIXED NUMBERS

14 HOURS

CONTENT: Proper and improper fractions, mixed numbers as improper fractions and vice versa, fractions to represent the shaded part of a figure and vice versa, comparing fractions, simplifying fractions, equivalent forms of a fraction, least common denominator, adding, subtracting, multiplying and dividing fractions and mixed numbers, order of operations in expressions involving addition, subtraction, multiplication, division and exponents of fractions, expressions involving fractions and their use in applications.

OUT OF CLASS ASSIGNMENTS: Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will understand the uses of fractions in everyday life, identify equivalent fractions and convert fractions to simplest form. Students will multiply and divide fractions, find the least common denominator (LCD), and add and subtract fractions. Students will evaluate exponential expressions with fractions and utilize the order of operations with fractions.

DECIMALS

12 HOURS

CONTENT: Place value of each digit of a decimal number, decimals in words and standard form, conversion between decimals and fractions, rounding decimals to a given place value, operations with decimals, multiplying and dividing by powers of 10, estimating sums, differences and products of decimals, order of operations in expressions involving addition, subtraction, multiplication, division and exponents of decimals, expressions involving decimals and their use in applications.

OUT OF CLASS ASSIGNMENTS: Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will memorize place values for decimals and round decimals to correct place values. They will add, subtract, multiply, and divide decimals. Students will evaluate exponential expressions with decimals and utilize the order of operations with decimals. They will convert between fractions and decimals.

RATIOS AND PROPORTIONS

8 HOURS

CONTENT: Ratio, rate, and proportion, ratios as fractions in simplest form, rates as fractions in simplest form, unit rates and unit prices, determining if a proportion is true, solving proportions, proportions and their use in applications.

OUT OF CLASS ASSIGNMENTS: Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will set up and simplify ratios and solve application problems involving ratio and proportion.

PERCENTS

8 HOURS

CONTENT: Meaning of a percent, percents as decimals and vice versa, percents as fractions and vice versa, converting percents, fractions and decimals, solving percent problems and applications by writing an equation or a proportion, percent increase and percent decrease, sales tax, commission, sale price and discount.

OUT OF CLASS ASSIGNMENTS: Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will convert percentages into decimals and fractions, convert decimals and fractions into percentages, and solve percentage problems utilizing a variety of strategies.

MEASUREMENTS AND GEOMETRY

6 HOURS

CONTENT: Converting units and performing arithmetic operations with U.S. measurements and metric measurements, Celsius and Fahrenheit; lines, line segments, rays, and angles; acute, obtuse and right angles; angle measure, including complementary and supplementary angles; perimeter of geometric figures, circumference, geometric areas and volumes, similar triangles problem-solving.

OUT OF CLASS ASSIGNMENTS: Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will choose and apply the appropriate formula to find the perimeter, circumference, area, or volume of a figure. They will convert units and perform operations with U.S. and metric measurements.

INTEGERS

10 HOURS

CONTENT: Signed numbers, absolute value, opposite of a number, operations with integers, order of operations including integral exponents and parentheses, integer expressions and their use in applications.

OUT OF CLASS ASSIGNMENTS: Students will complete textbook assignments.

STUDENT PERFORMANCE OBJECTIVES: Students will be able to add, subtract, multiply, and divide integers. They will use the order of operations to simplify expressions with integers, signed fractions and decimals.

REVIEW FOR FINAL EXAM

2 HOURS

CONTENT: Review whole numbers, decimals, fractions, mixed numbers, rations and proportions, percents, measurements and geometry, and integers to prepare for the Final Exam.

OUT OF CLASS ASSIGNMENTS: Students will complete review assignment.

STUDENT PERFORMANCE OBJECTIVES: Students will prepare for the Final Exam.

FINAL EXAM

2 HOURS

**METHODS OF INSTRUCTION:**

Lecture, discussion, educational software, collaborative group work.

**OUT OF CLASS ASSIGNMENTS:**

Required Outside Hours: 144

Assignment Description: 1. Regularly assigned homework that requires students to analyze and study pertinent text material, solved examples and lecture notes.

2. Regularly assigned homework that requires students to apply the principles and skills covered in class by solving related problems.

**METHODS OF EVALUATION:**
Problem-solving assignments
Percent of total grade: 10.00 %
Homework and in-class assignments
Objective examinations
Percent of total grade: 90.00 %
Exams and cumulative Final Exam

**REPRESENTATIVE TEXTBOOKS:**
Recommended Representative Textbooks
Aufmann. Basic College Mathematics. Cengage Learning,2013.
ISBN: 978-1133365440
Reading Level of Text, Grade: 12 Verified by: Jennifer Nari
Elayn Martin-Gay. Basic College Mathematics. Pearson,2015.
ISBN: 9780321950970
Reading Level of Text, Grade: 12 Verified by: Jennifer Nari

**ARTICULATION and CERTIFICATE INFORMATION**
> Associate Degree:
> CSU GE:
> IGETC:
> CSU TRANSFER:
> > Not Transferable
> UC TRANSFER:
> > Not Transferable

SUPPLEMENTAL DATA:
Basic Skills: B
Classification: L
Noncredit Category: C
Cooperative Education:
Program Status: 2 Stand-alone
Special Class Status: N
CAN:
CAN Sequence:
CSU Crosswalk Course Department:
CSU Crosswalk Course Number:
Prior to College Level: D
Non Credit Enhanced Funding: N
Funding Agency Code: Y
In-Service: N
Occupational Course: E
Maximum Hours: 4
Minimum Hours: 4

Course Control Number:
Sports/Physical Education Course: N
Taxonomy of Program: 170100