

**CSKLS 371 Course Outline as of Fall 2021****CATALOG INFORMATION**

Dept and Nbr: CSKLS 371 Title: GENERAL ARITHMETIC

Full Title: General Arithmetic

Last Reviewed: 3/31/2014

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.50	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.50	Lab Scheduled	2.00	6	Lab Scheduled	35.00
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 192.50

Title 5 Category: AA Degree Non-Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: CSKL 371

**Catalog Description:**

Addition, subtraction, multiplication and division operations as applied to whole numbers, fractions, decimal fractions, percentage, use of calculators, and measurement using English and metric systems. Problem-solving, estimation, using graphs, charts and tables. Regularly scheduled computer-assisted lab assignments to reinforce the lecture.

**Prerequisites/Corequisites:****Recommended Preparation:**

Basic arithmetic skills of addition, subtraction, multiplication and division of whole numbers

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Addition, subtraction, multiplication and division operations as applied to whole numbers, fractions, decimal fractions, percentage, use of calculators, and measurement using English and metric systems. Problem-solving, estimation, using graphs, charts and tables. Regularly scheduled computer-assisted lab assignments to reinforce the lecture. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Basic arithmetic skills of addition, subtraction, multiplication and division of whole numbers

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
<b>CSU Transfer:</b>		Effective:	Inactive:
<b>UC Transfer:</b>		Effective:	Inactive:

**CID:**

**Certificate/Major Applicable:**

Not Certificate/Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Demonstrate mastery of the basic arithmetic algorithms involving whole numbers, fractions, decimals, proportions, percentages, and measurement conversions.
2. Define and give examples of basic arithmetic concepts taught in the course.
3. Apply arithmetic algorithms to word problems/situations.
4. Interpret basic data included in graphs, charts, and tables, and create simple graphs, charts, and tables from provided data.
5. Use academic literacy skills to improve studying and learning.

### **Objectives:**

Upon completion of this course, students will be able to:

1. Perform basic operations of addition, subtraction, multiplication, and division of whole numbers, fractions, decimals, and mixed numbers.
2. Represent a number in its equivalent decimal, fraction, and percent form.
3. Use rounding, estimating, and logic to solve and verify answers for a variety of problems involving basic operations, decimals, fractions, proportions, percents, and measurement.
4. Identify, define, and apply basic arithmetic concepts and vocabulary.
5. Define vocabulary and use basic concepts relating to percent, including taxes, commission, discount, interest, percent increase/decrease.
6. Define vocabulary and use basic concepts relating to measurement in both English (U.S.) and metric systems.
7. Use dimensional analysis to convert measurements within the English (U.S.) system and between English (U.S.) and metric systems.
8. Interpret word problems involving whole numbers, fractions, decimals, proportions, percents, and/or measurement and set up appropriate math algorithms to solve them.

9. Interpret data from graphs, charts, and tables.
10. Identify support services for math offered in College Skills labs, Tutorial Center, and instructor's student consultation hours.
11. Apply study and test-taking techniques to college math classes.
12. Apply basic arithmetic and problem-solving skills to college classes, the workplace, and daily life situations.

## **Topics and Scope:**

- I. Course orientation
  - A. Math pathway
  - B. Self-assessment and goal-setting
  - C. Study techniques
  - D. Support services, including:
    1. Math Lab
    2. Tutorial Center
    3. Student consultation hours
    4. Counseling
- II. Whole numbers
  - A. Place value and word names
  - B. Expanded form and standard notation
  - C. Rounding and estimating
  - D. Addition, subtraction, multiplication, division
  - E. Mean, median, mode
  - F. Order of operations
  - G. Word problems, charts, graphs, and tables
- III. Fractions
  - A. Definitions, including
    1. Numerator and denominator
    2. Proper and improper fractions
    3. Mixed numbers
  - B. Equivalent fractions; reducing and building fractions
  - C. Multiplying and dividing fractions and mixed numbers
  - D. Prime factors, prime factorization, multiples
  - E. Adding and subtracting like fractions, unlike fractions, and mixed numbers
  - F. Word problems with fractions
- IV. Decimals
  - A. Place value and word names of decimal fractions
  - B. Rounding decimals
  - C. Conversions between decimals and fractions
  - D. Listing decimals in order of value
  - E. Addition, subtraction, multiplication, division of decimals
  - F. Word problems, charts, graphs, and tables with decimals
- V. Ratio and proportion
  - A. Setting up ratios and proportions
  - B. Solving proportions
  - C. Word problems using proportions
- VI. Percents
  - A. Definition of percent
  - B. Changing decimals to percents; percents to decimals; fractions to percents; percents to fractions
  - C. Solving percent problems using proportion method

D. Word problems

1. Taxes (sales, income, Social Security)
2. Business related (commission, discount, mark-up/mark-down, percent increase/decrease)
3. Interest (simple and compound)

VII. Measurement

A. English (U.S.) system

1. Equivalents
2. Using dimensional analysis for conversions

B. Metric system

1. Terminology
2. Using powers of 10 for conversions

C. Conversions between English (U.S.) and metric systems, using dimensional analysis

D. Interpreting word problems using measurement

VIII. Graphs, charts, and tables

IX. Applications of arithmetic and problem-solving skills to real life situations will be integrated throughout the course.

X. Lab includes practice and application for the above topics.

**Assignment:**

1. Approximately 24-26 homework assignments
2. 4-5 unit tests (whole numbers, fractions, decimals/ratio and proportions, percents, and measurement)
3. 25-27 lab quizzes
4. Comprehensive final exam
5. Course notebook (lab worksheets, class notes, in-class exercises)

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, lab assignments

Problem solving  
20 - 40%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None

Skill Demonstrations  
0 - 0%

**Exams:** All forms of formal testing, other than skill performance exams.

Lab quizzes, unit exams, final exam: multiple choice, completion.

Exams  
50 - 70%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Course notebook, lab work, participation

Other Category  
10 - 20%

**Representative Textbooks and Materials:**

Arithmetic for College Students. Greaney, Matthew. 2011

Basic College Mathematics. Miller, Julie, O'Neill, Molly, & Hyde, Nancy. 2nd Ed. McGrawHill Higher Education. 2013

Instructor prepared materials