

CSKLS 372 Course Outline as of Fall 2013**CATALOG INFORMATION**

Dept and Nbr: CSKLS 372 Title: PRE-ALGEBRA

Full Title: Pre-Algebra

Last Reviewed: 1/25/2021

| 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 | 0 | 6 | Lab Scheduled | 0 |
| | | Contact DHR | 2.00 | | Contact DHR | 35.00 |
| | | 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 372

Catalog Description:

This course covers operations with signed numbers, rules of powers, and square roots applied to real numbers, using simplified, evaluated and scientific notation; geometric formulas to solve perimeters, areas, and volumes of figures; and algebraic expressions and linear equations. Emphasis is placed on critical thinking and demonstrating strategies as well as finding solutions. Regularly scheduled computer-assisted lab assignments reinforce or supplement lecture topics.

Prerequisites/Corequisites:

Course Completion of CSKLS 371 or CSKLS 368B or higher (V1); OR Qualifying score on Math placement test

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

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equations. Emphasis is placed on critical thinking and demonstrating strategies as well as finding solutions. Regularly scheduled computer-assisted lab assignments reinforce or supplement lecture topics. (Grade or P/NP)

Prerequisites/Corequisites: Course Completion of CSKLS 371 or CSKLS 368B or higher (V1); OR Qualifying score on Math placement test

Recommended:

Limits on Enrollment:

Transfer Credit:

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

| | | | |
|----------------------|----------------------|-------------------|------------------|
| AS Degree: | Area | Effective: | Inactive: |
| CSU GE: | Transfer Area | Effective: | Inactive: |
| IGETC: | Transfer Area | Effective: | Inactive: |
| CSU Transfer: | | Effective: | Inactive: |
| UC Transfer: | | Effective: | Inactive: |

CID:

Certificate/Major Applicable:

Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:

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

1. Use advanced computation skills in addition, subtraction, multiplication, and division with real numbers.
2. Solve complex word problems involving multiple operations.
3. Solve pre-algebra problems including simple linear equations with real numbers.
4. Use formulas to solve problems with common geometric shapes (perimeter, circumference, area and volume).
5. Use a scientific calculator for multiple operations, including square roots and scientific notation.

Topics and Scope:

1. Advanced arithmetic skills development without a calculator
 - A. The four basic operations (addition, subtraction, multiplication and division) of positive whole numbers, fractions and decimals
 - B. Order of operations (grouping symbols, exponents, multiplication and division, addition and subtraction)
 - C. Conversions and comparisons of fractions, decimals, percents
 - D. Translating words and phrases to set up and solve math expressions with positive numbers
2. Rational numbers
 - A. Introduction to the number line, integers, rationals, absolute value, and inequalities

- B. Advanced skill development of the four basic operations as applied to the rational numbers without a calculator
 - C. Order of operations
 - D. Translating words and phrases to set up and solve math expressions with rational numbers
3. Exponents
- A. Rules of exponents: zero exponent, product rule, quotient rule, negative exponents, power rule
 - B. Use of scientific calculator
 - C. Scientific notation
 - D. Square roots
 - i. Rational and irrational solutions
 - ii. Application of the Pythagorean Theorem
 - E. Word problems involving exponents (exponential growth and decay)
4. Geometry
- A. Application of formulas to solve perimeter and area problems:
 - i. Four basic shapes (rectangle, square, triangle, and circle)
 - ii. Trapezoid and parallelogram
 - iii. Composite figures made from these shapes
 - B. Application of formulas to solve volume problems:
 - i. Prisms, cubes, cylinders, cones, and pyramids
 - ii. Composite figures made from these shapes
 - C. Solving word problems involving perimeter, area, and volume
5. Algebra expressions and equations
- A. Introduction to algebraic vocabulary: variable, constant, term, coefficient, degree, expression, equation, polynomials
 - B. Simplifying and evaluating algebraic expressions
 - C. Solving linear equations:
 - i. Single-step equations (addition/subtraction or multiplication/division)
 - ii. Multi-step equations (addition/subtraction and multiplication/division)
 - iii. Equations with variables on both sides
 - iv. Equations with fractions, decimals, and percents

Assignment:

1. 25 - 35 homework assignments
2. 25 - 30 quizzes
3. 4 - 6 unit tests
4. Computer lab and/or online assignments (30 - 60 problems per week)
5. Comprehensive final exam

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 tests, final exam

Exams
50 - 70%

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

Lecture and lab participation

Other Category
0 - 10%

Representative Textbooks and Materials:

Prealgebra for College Students, 2nd edition, Matthew Greaney, Thomson Publishing, 2006
(Classic)

Instructor prepared materials