

# NC 267: SEVENTH GRADE MATHEMATICS

## Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2021
Credits:	0
Total Contact Hours:	80
Lecture Hours :	80
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	160
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Non-Credit Course

## Catalog Course Description

This is a four-week enrichment course designed to help prepare students entering seventh grade mathematics. It will assist in preparing students to meet seventh grade standards in the areas of proportional reasoning, linear equations, number sense, and geometry. Students will also be exposed to real-life situations where mathematical calculations are used in common settings. 80 lecture hours.

## Course Objectives

- Identify proportional relationships in graphs, tables, equations, and verbal description. Students will identify the constant of proportionality (unit rate) and use it to solve real-world problems.
- Create equivalent expressions by adding, subtracting, and expanding linear expressions with rational coefficients. Solve real-world problems by creating and solving one- and two-step equations.
- Solve real-world problems involving area of two-dimensional regular and irregular polygons composed of triangles and quadrilaterals. Calculate the area and circumference of circles.
- Accurately add, subtract, multiply, and divide rational numbers including decimals and integers. Apply those skills to real-world problems.

## Major Course Content

- Proportional relationships
  - Rates and unit rates
    - Equivalent ratios
    - Unit rate
  - Proportionality test
    - Graphs
      - Interpret graphs.
    - Tables
      - Identify constant of proportionality, in terms of  $k$ .
    - Equations, including verbal descriptions
      - $y=kx$
  - Solve real-world problems.
- Linear expressions and equations

- Defining linear expressions as related to equations.
  - Solve one- and two- step equations.
  - Solve real-world problems.
- Area and circumference of two-dimensional polygons
    - Find the area of regular polygons.
      - Apply area formulas for triangles and quadrilaterals.
    - Find the area of irregular polygons.
      - Apply area formulas for triangles and quadrilaterals.
    - Find the circumference and area of circles.
      - Apply circumference and area formulas for circles.
  - Add, subtract, multiply, and divide rational numbers.
    - Add, subtract, multiply, and divide integers.
    - Add, subtract, multiply, and divide decimals.
    - Solve real-world problems.

## Suggested Reading Other Than Required Textbook

- The Curious Incident of Dog in the Night-Time by Mark Haddon.
- Cryptonomicon by Neal Stephenson

## Examples of Required Writing Assignments

Write about how you believe the formula of the area of a triangle was discovered, be as animated as possible.

## Examples of Outside Assignments

What is the relationship between right triangles and rectangles? Where can you find right triangles and rectangles in real life?

## Instruction Type(s)

Lecture, Online Education Lecture