

# NC 266: SIXTH 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 sixth grade mathematics. It will assist in preparing students to meet sixth grade standards in the areas of statistics, ratios, expressions and equations, and geometry. Students will also be exposed to real-life situations where mathematical calculations are used in common settings. 80 lecture hours.

## Course Objectives

- Describe and summarize data as well as display data sets using a number line, dot plots, box plots and histograms.
- Use real-world contexts to interpret, evaluate, and write algebraic expressions and equations (including variables) to understand ratios and unit rates.
- Identify and generate equivalent expressions and solve real-world mathematical problems by writing and solving algebraic equations.
- Write and evaluate numerical expressions to find the area of rectangles, triangles, and polygons composed of rectangles and triangles.

## Major Course Content

1. Statistics
  - a. Describe and summarize data.
    - i. Analyze data given different data sets.
    - ii. Interpret the data sets.
    - iii. Make conjectures given the data sets.
    - iv. Real-world problems
  - b. Display Data
    - i. Display data sets using a number line, dot plots, box plots, and histograms.
    - ii. Real-world problems
2. Ratio Reasoning
  - a. Equivalent Ratios
    - i. Varying ways to write ratios
    - ii. Simplifying
    - iii. Tables
    - iv. Converting rates

- b. Unit Rate
  - i. Create expressions/equations.
  - ii. Real-world scenarios
3. Expressions and Equations
  - a. Identify parts of expressions and equations.
  - b. Compare expressions vs equations.
  - c. Write expressions and equations from real-world scenarios.
  - d. Solve one-step equations.
  - e. Evaluate expressions applying the mathematical properties.
4. Geometry: Area
  - a. Find the area of regular polygons.
    - i. Apply area formulas for triangles and quadrilaterals.
  - b. Find the area of irregular polygons.
    - i. Decompose into triangles, rectangles, and squares.
    - ii. Apply area formulas for triangles and quadrilaterals.

## Suggested Reading Other Than Required Textbook

Innumeracy by John Allen Paulos

## Examples of Required Writing Assignments

Describe in your own words the relationship between ratios and proportions and how you would apply it to three things around your home.

## Examples of Outside Assignments

Find the height of your house/building using similar triangles and ratios.

## Instruction Type(s)

Lecture, Online Education Lecture