Greenwich Public Schools Curriculum Overview

Statistics 2

Personalized learning is achieved through standards-based, rigorous and relevant curriculum that is aligned to digital tools and resources.

Note: Teachers retain professional discretion in how the learning is presented based on the needs and interests of their students.

Course Description

Statistics 2
(Grade 12 only)
2nd semester
027856 6 Blocks .5 Credit
Prerequisite: Statistics 1 with a grade of C+ or better
This semester course will be an in-depth study of statistics. The normal distribution curve will be analyzed and used to solve real world applications. Students will discuss and analyze how sampling determines the outcome of data and study inferential statistics. In addition, confidence intervals and tests of significance will be explored.

Unit Guide

Chapter 5: Normal Distributions
Chapter 6: Confidence Intervals
Chapter 7: Hypothesis Testing With One Sample
Semester Review and Semester Project

Notes:

- A few extra days have been allotted for teachers to individualize their instruction, enrichment and the use of technology, as well as allow time for extra assessments and projects.

Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.

Enduring Understandings

- *Chapter 5*: Normal (bell-shaped) distributions and their properties are used in real-life applications.
- *Chapter 6*: The larger the sample, the more accurate the data is when mapped onto a population.
- *Chapter 7*: Claims must be rigorously tested against quantitative sets of standards.

Essential Questions:

- *Chapter 5*:
  - When does a normal curve exist?
  - What is a z-score?
  - How does one use the area under the normal curve to calculate probabilities?
  - What is the Central Limit Theorem?
  - How is the Central Limit Theorem applied to sampling distributions?
- *Chapter 6*:
  - What is a confidence interval?
  - How does one construct a confidence interval?
  - How does one interpret the solution to a confidence interval?
  - How does one compute a confidence interval for two population means?
- *Chapter 7*:
  - What is hypothesis testing?
  - What is the value in using hypothesis testing when trying to validate a claim?
  - What are the types of hypothesis tests?
  - How does one test for and interpret a population mean or proportion?
  - How does one apply the graphing calculator for hypothesis testing?

Resources and Assured Experiences

Textbook Information:
Elementary Statistics – Picturing the World
Pearson / Prentice Hall (4th Edition)
ISBN 0-13-600720-1

Quarterly Grading

Quarter Grades will be determined using the following components:

- Participation (includes Classwork) = 10%
- Preparation (includes Homework) = 20%
- Assessments (both Summative & Formative) = 70%

Connecticut Common Core State Standards

- *Chapter 5*: CCSS.MATH.CONTENT.HSS.ID.A.4
- *Chapter 6*: CCSS.MATH.CONTENT.HSS.IC.B.4
- *Chapter 7*: CCSS.MATH.CONTENT.HSS.IC.B.5