

Warren County School District

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Statistics

Course Number: 00282

Course Prerequisites: Algebra 1 and Algebra II

Course Description:

Statistics is intended to provide an introduction to statistics where students will learn not only the vocabulary and mechanics of problem solving but also when and where to apply statistical methods. Students will be provided with exploration activities to help them discover the relevance of statistics to varied disciplines of professions through real life studies and applications. Graphing calculator will be used to display problem solving activities.

Suggested Grade Level: Grades 11-12

Length of Course: ☐ One Semester ☒ Two Semesters ☐ Other (Describe)

Units of Credit: 1 (Insert *None* if appropriate)

PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG Mathematics 50

Certification verified by WCSD Human Resources Department: ☒ Yes ☐ No

TEXTBOOK AND SUPPLEMENTAL MATERIALS

Continue using Board approved textbook? ☐ Yes ☐ No (*If yes, then complete the information below.*)

Board Approved Textbooks, Software, Supplemental Materials:

Title: Elementary Statistics - Picturing the World 7th Edition

Publisher: Pearson

ISBN #: 9780134761428

Copyright Date: 2019

Date of WCSD Board Approval: 3/12/2018

BOARD APPROVAL:

Date Written: 1/3/2018

Date Approved: 3/12/2018

Implementation Date: 2018-2019

SPECIAL EDUCATION AND GIFTED REQUIREMENTS

The teacher shall make appropriate modification to instruction and assessment based on a student's Individual Education Plan (IEP) or Gifted Individual Education Plan (GIEP).

COURSE OVERVIEW

1. Introduction to Statistics
 - a. An Overview of Statistics
 - b. Data Classification
 - c. Experimental Design
2. Descriptive Statistics
 - a. Frequency Distributions and Their Graphs
 - b. More Graphs and Displays
 - c. Measures of Central Tendency
 - d. Measures of Variation
 - e. Measures of Position
3. Probability
 - a. Basic Concepts of Probability
 - b. Conditional Probability and the Multiplication Rule
 - c. The Addition Rule
 - d. Counting Principles
4. Discrete Probability Distributions
 - a. Probability Distributions
 - b. Binomial Distributions
 - c. More Discrete Probability Distributions
5. Normal Probability Distributions
 - a. Introduction to Normal Distributions and the Standard Normal Distribution
 - b. Normal Distributions: Finding Probabilities
 - c. Normal Distributions: Finding Values
 - d. Sampling Distributions and the Central Limit Theorem
 - e. Normal Approximations to Binomial Distributions
6. Confidence Intervals
 - a. Confidence Intervals for the Mean (Large Samples)
 - b. Confidence Intervals for the Mean (Small Samples)
 - c. Confidence Intervals for Populations Proportions
 - d. Confidence Intervals for Variance and Standard Deviation
7. Hypothesis Testing with One Sample
 - a. Introduction to Hypothesis Testing
 - b. Hypothesis Testing for the Mean (Large Samples)
 - c. Hypothesis Testing for the Mean (Small Samples)
 - d. Hypothesis Testing for Proportions
 - e. Hypothesis Testing for Variance and Standard Deviation
8. Hypothesis Testing with Two Samples
 - a. Testing the Difference Between Means (Large Independent Samples)
 - b. Testing the Difference Between Means (Small Independent Samples)
 - c. Testing the Difference Between Means (Dependent Samples)
 - d. Testing the Difference Between Proportions

9. Correlation and Regression
 - a. Correlation
 - b. Linear Regression
 - c. Measures of Regression and Prediction Intervals
 - d. Multiple Regression

ASSESSMENT

Portfolio Assessment: _____ Yes ☒ No

District-Wide Common Final Examination Required: ☒ Yes _____ No

Course Challenge Assessment (Describe): Course challenge assessment will be based on activities and exams that measure student proficiency as the course standards at 84%.

WRITING TEAM: Warren County School District Teachers

WCSD STUDENT DATA SYSTEM INFORMATION

1. Is there a required final examination? ☒ Yes _____ No
**Warren County School District Policy 9741 and 9744 state, "All classes in grades 9-12 shall have a final exam."*
2. Does this course issue a mark/grade for the report card? ☒ Yes _____ No
3. Does this course issue a Pass/Fail mark? _____ Yes ☒ No
4. Is the course mark/grade part of the GPA calculation? ☒ Yes _____ No
5. Is the course eligible for Honor Roll calculation? ☒ Yes _____ No
6. What is the academic weight of the course?
 _____ No weight/Non credit ☒ Standard weight _____ Enhanced weight