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

**ASSESSMENT**

**Portfolio Assessment:** **\_\_**     \_\_ Yes \_\_X\_\_ No

**District-Wide Common Final Examination Required:** **\_\_**X 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? \_\_X\_\_ Yes \_\_     \_\_ No

***\*Warren County School District Policy 9741 and9744 state, “All classes in grades 9-12 shall have a final exam.”***

1. Does this course issue a mark/grade for the report card? \_\_X\_\_ Yes \_\_     \_\_ No
2. Does this course issue a Pass/Fail mark? \_\_     \_\_ Yes \_\_X\_\_ No
3. Is the course mark/grade part of the GPA calculation? \_\_X\_\_ Yes \_\_     \_\_No
4. Is the course eligible for Honor Roll calculation? \_\_X\_\_ Yes \_\_     \_\_ No
5. What is the academic weight of the course?

|  |  |  |
| --- | --- | --- |
| \_\_     \_\_ No weight/Non credit | \_\_X\_\_ Standard weight | \_\_     \_\_ Enhanced weight |