

Norwood Public Schools

Curriculum Overview

Data, Statistics, and Probability 271H

Description

Data, Statistics, and Probability is a junior/senior elective mathematics course taught at the honors level at Norwood High School. This course will provide an introduction to a wide range of statistical concepts. Some basic concepts learned previously will be reinforced and expanded upon, including measures of center and spread. Focus will be placed heavily on interpretation of statistical measures, rather than merely on calculation. Data, Statistics, and Probability is an activity-driven course, involving analysis and communication of real-world data. A significant portion of this course will focus on valid data gathering procedures and recognizing statistical manipulations and bias. The TI-83/84 calculator will be used throughout the course. Successful completion of Algebra 2 is the requirement to enroll in this class.

Learning Experiences:

Students will investigate data. Data sets will be constructed, presented, and examined through visual displays and numerical summaries. Students will reason and communicate findings, make conjectures, analyze results, and make and justify conclusions. The TI-83/84 calculators and other technologies such as spreadsheet programs will be used throughout the course to help with calculations and statistical procedures. Short and longer term projects are constructed throughout the year to illustrate statistical concepts and engage student learning.

Content Outline:

<u>Topic</u>	<u>Name</u>	<u>Days</u>
1	Data and Variables	4
2	Data and Distributions and the Graphing Calculator	5
3	Drawing Conclusions from Studies	6
4	Random Sampling	5
5	Designing Experiments	5
6	Two-Way Tables	5
7	Displaying and Describing Distributions	6
8	Measures of Center	5
9	Measures of Spread	8
10	More Summary Measures and Graphs	7
MIDYEAR EXAM		
11	Probability	8
12	Normal Distributions	6
13	Sampling Distributions: Proportions	3
14	Sampling Distributions: Means	3
15	Central Limit Theorem	3
16	Confidence Intervals: Proportions	3
17	Tests of Significance: Proportions	4
19	Confidence Intervals: Means	3
20	Tests of Significance: Means	4
26	Graphical Displays of Association	5
27	Correlation Coefficient	4
28	Least Squares Regression	7

FINAL EXAM

Resources Used:

Textbook: Workshop Statistics 3rd edition, Rossman et al, 2008, John Wiley and Sons, Inc.
TI-83/84 calculator and software, Excel spreadsheets, various data sources