



**KENOSHA UNIFIED SCHOOL DISTRICT NO. 1
CURRICULUM AND INSTRUCTIONAL SERVICES**

HIGH SCHOOL COURSE SYLLABUS

MATHEMATICS

Probability and Statistics 341010

Number of Credits: .5

Prerequisites

Successful completion of Geometry (321011 & 321012 or 322021 & 322022) and Algebra 2 (331011 & 331012 or 332021 & 332022)

Course Description

This course introduces students to the basics of statistical testing. Students learn to organize, display, and analyze data and to explore the elements of probability. This course is a good foundation for AP Statistics.

Relevance

This course is an effective preparation for students interested in the fields of social sciences, health sciences, business, engineering, and mathematics.

Course Standards

A. Mathematical Processes B. Number Relationships E. Statistics and Probability

Most essential benchmarks may be viewed at: www.kusd.edu.

Lifelong Learning Standards

- Knowledgeable person
- Effective communicator
- Quality producer
- Complex thinker
- Self-directed learner
- Contributing citizen

Lifelong learning benchmarks may be viewed at: www.kusd.edu.

Course Outline

Key Concepts Ch 1-6, 8.4 & 10.1-10.3 Prob & Stats

Ch 1: Four components of statistics

Four levels of measurement

Simple random sampling

Sample vs census

Four types of experimental design

Ch. 2: Data: Time-series plot

Bar graph

Frequency table

Histogram

Five descriptors of distribution graphs

Stem & leaf display

- Ch. 3: Box & Whiskers
 - Mean, mode, range, standard deviation
 - Median, Quartiles, and max and min(5 # summary)
 - Symbols: \bar{x} , μ , \sum , σ
 - Mean & SD of grouped data
 - Weighted average
- Ch. 4: Probability: $P(A)$, $P(\text{not } A)$, relative frequency leading to probabilities
 - $P(A \text{ and } B)$, $P(A \text{ or } B)$
 - Tree diagram and counting
 - Multiplication Principle
 - Combinations & Permutations
- Ch. 5 Expected value
 - Binomial Probabilities (n successes in r trials)
 - Binomial dist mean & SD
 - Geometric probability dist.
- Ch. 6: Normal distribution curve
 - Empirical rule (%'s)
 - Z scores (forward & backwards)
 - Meaning of z scores (area under curve & probability)
- Ch 8.4: Three situations, calculating sample sizes
- Ch. 10.1-10.3: Scatter Plot
 - Linear regression equation
 - Linear correlation (+, -, strong, moderate, weak)
 - Coefficient of correlation & predicted values
 - Confidence intervals

Board-Approved Instructional Materials

Brase and Corrinne Pellillo Brace. Understandable Statistics, eighth edition, McDougal Littell, 2006 (ISBN 0-618-50153-3)

Online Resources:

http://math.college.hmco.com/mathematics/brase/understanding_statistics/8e/student_home.html

Parents as Partners

Family involvement is an essential element for a student's success in mathematics. Be positive and support homework, don't do it for them. Think of yourself as a guide rather than your child's teacher. You can help by asking questions and listening. You may also help by visiting the online resources and encouraging your child to take advantage of the tutorials, interactive activities, and other online resources listed above.

Methods of Assessment

Final exams should be cumulative in nature, emphasizing the most essential benchmarks for the course. Results of the final exam represent 20 percent of the final grade, but this single measure *may not* drop a student's grade by more than one letter grade. In courses that rely heavily on a major project, performance exhibition, etc., the project should be divided into stages or components and each of those should be graded separately, providing students with frequent and specific feedback.

Board-Approved Grading Scale

Excerpts taken from School Board Rule 6452

GRADING SCALE

A+=98-100 percent	B+=86-89 percent	C+=76-79 percent	D+=66-69 percent
A=93-97 percent	B=83-85 percent	C=73-75 percent	D=63-65 percent
A-=90-92 percent	B-=80-82 percent	C-=70-72 percent	D-=60-62 percent
			F=0-59 percent

MAKE-UP WORK

Students submitting work up to ten school days late without prior approval may receive up to two grades lower on the work than they would have received if the work had been submitted on time (i.e., B+ lowered to a D+). Student work submitted after ten school days without prior approval shall not be accepted for credit and shall be recorded with a score of zero.

Upon returning to school after an absence, a student has the responsibility within the number of days equal to the length of the absence or suspension to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. A truant student has the responsibility on the first day he or she returns to the course/class to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. Lower grades may not be given for late work due to excused absences, suspension, or truancy unless the work is submitted later than agreed upon deadlines.

See Rule 6452 in its entirety at: www.kusd.edu.