

Probability & Statistics

Overview - The older we get, the more it seems like we are bombarded with data and information. In this class we will try to teach you to better interpret this information. This is a required course for graduation. Success is directly related to your efforts. Work hard, ask questions, and participate.

Textbook - **Anoka-Hennepin Probability & Statistics, 4th Edition: (Haney, & Johnson)**
There will be hard copies of the textbook for student use. The textbook is also available online at moodle.anoka.k12.mn.us (students learn how to access this during the first two days of class).

Materials Bring paper and a pencil every day. A graphing Calculator will be used frequently during certain units in this course, please have access to a TI-83 or TI-84 series graphing calculator if you can. Also, students will be encouraged to access resources via the internet during class and are allowed to use an internet-accessible device for coursework needs.

Grading	Percentages	Quarter Grades	
	93 – 100 A	77 – 79 C+	60% Exams & Major Projects
	90 – 92 A-	73 – 76 C	15% Homework
	87 – 89 B+	70 – 72 C-	15% Quizzes
	83 – 86 B	60 – 69 D	10% Final Exam
	80 – 82 B-	< 60 F	

Hmwk/Quiz Homework is a very important part of learning. Be sure to complete your homework every day and to ask questions about the material that you do not understand. Homework will be collected on the day of the unit exam. All homework solutions are posted on the course website – use them to grade your own homework. Remember that not understanding homework usually means that you are not prepared for upcoming quizzes and exams. Many quizzes will be given online through the course Moodle site. Please be sure to complete these quizzes before their due dates.

Tardies Simple: be in your seat, get your homework out, prepare for class, and be ready to begin class when the bell rings. If you are not in your seat when the bell rings you may be marked tardy.

Need Help?

- 1) **Form a study group -** Get together with some friends and spend some time helping each other. You learn best when you teach something! If done right, you'll learn more and have more fun than being frustrated & alone.
- 2) **Your Teacher –** Check with your teacher regarding their availability (usually 7am-3pm)
- 3) **Moodle -** You will find many resources for this course on the course Moodle website (<http://moodle.anoka.k12.mn.us>). Resources include class notes, homework assignments, copies of worksheets, homework help forums, and much more. Moodle is also where you will access your textbook online. Moodle IS THE best resource for this course. Your teacher will show you how to access the course website during the first week of class.

Student Name (please print): _____

Student Signature: _____

Parent Name (please print): _____

Parent Signature: _____

Cell Phones Cell phones should not be used at any time during the school day. Please be aware that any use of a cell phone during school hours is grounds for a referral. The following is school policy:

The use of a cell phone/unauthorized electronic device during a period where an assessment is given (test, quiz, etc.) will be considered cheating regardless of the intention, resulting in a zero for the assessment and referral to the office for possible disciplinary action.

Course Outline

Unit 1

- Events, outcomes, and sample spaces
- Tree Diagramming
- Fundamental Counting Principle
- Combinations and Permutations

Unit 2

- Calculating Probabilities
- Law of Large Numbers
- Dependent and Independent Events
- Venn Diagramming
- Conditional Probabilities and Two-Way Tables

Unit 3

- More sophisticated tree diagramming
- Probability Models
- Expected Value
- Random number generators and usage (simulations)

Unit 4

- The language and vocabulary of statistics and statistical studies
- Data collection methods in statistics
- Random digit tables
- Sampling techniques
- Confidence intervals (95%)
- Experimental Design

Unit 5

- Representing data through tables and graphs
- Analyzing statistics (mean, median, mode, etc.)
- Analyzing data for outliers
- Bar graphs, pie graphs, time plots, dot plots, histograms, stem plots, & box plots.

Unit 6

- Bivariate Data Representation: Scatterplots
- Form, direction, and strength
- Correlation
- Least-Squares Line (best-fit line for linear data)

Unit 7

- Normal Distributions: Mean and standard deviation
- The Empirical Rule
- Z-scores and Percentiles
- Probabilities in a normal distribution