

Probability and Statistics
2016 - 2017

Instructor:	Mr. Robert Remme		
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Room:	#407		
Number of Semesters:	2	Credit:	1
Open to Grades:	11 - 12	Prerequisite:	Algebra I

Textbook Resource: *Elementary Statistics: A Step by Step Approach*, 7th Ed. Bluman, Alan G.

DESCRIPTION:

Students will review and expand their understanding of probability, as it is the foundation of statistics. Students will learn how to handle data including data collection, displaying data, and interpreting data. Students will learn how data is used to make predictions using linear regression. Finally, students will learn how hypothesis testing is used for decision-making.

Materials/Supplies:

Folder or a 3 ring binder	Notebook
Pencil	Handouts
Calculator (Basic Calculator or a TI 83, TI 83 Plus, or TI 84)	

Course Outline: The following units/topics will be covered this year.

Part 1		
Chapter 1	The Nature of Probability and Statistics	<ul style="list-style-type: none"> • Descriptive and Inferential Statistics • Variables and Types of Data • Data Collection and Sampling Techniques • Observational and Experimental Studies • Uses and Misuses of Statistics • Computers and Calculators
Chapter 2	Frequency Distributions and Graphs	<ul style="list-style-type: none"> • Organize Data • Histograms, Frequency Polygons, and Ogives

		<ul style="list-style-type: none"> • Other Types of Graphs
Chapter 3	Data Description	<ul style="list-style-type: none"> • Measures of Central Tendency • Measures of Variation • Measures of Position • Explore Data Analysis
Chapter 4	Probability and Counting Rules	<ul style="list-style-type: none"> • Sample Spaces and Probability • Addition Rules for Probability • Multiplication Rules for Probability • Counting Rules • Probability and Counting Rules
Chapter 5	Discrete Probability Distributions	<ul style="list-style-type: none"> • Probability Distributions • Mean, Variance, Standard Deviation and Expectation. • Binomial Distribution • Other Types of Distributions
Chapter 6	Normal Distributions	<ul style="list-style-type: none"> • Normal Distributions • Applications of the Normal Distributions • Central Limit Theorem • Normal Approximation to the Binomial Distribution
Chapter 7	Confidence Intervals and Sample Size	
Chapter 8	Hypothesis Testing	<ul style="list-style-type: none"> • Steps in Hypothesis Testing – Traditional • Z Test for a Mean • t test for a mean • z test for a proportion • χ^2 test for variance or standard deviation • Other topics
Chapter 9	Inferences involving one population	<ul style="list-style-type: none"> • Inferences about the mean when sigma is unknown

		<ul style="list-style-type: none"> • Inferences about the binomial probability of success • Inferences about the variance and standard deviation
Chapter 9	Inferences involving two populations	<ul style="list-style-type: none"> • Dependent and Independent samples • Inferences concerning the mean difference • Using two dependent samples
Chapter 10	Correlation and Regression	<ul style="list-style-type: none"> • Scatterplots and Correlations • Regression • Coefficient of Determination and Standard error of the estimate
Chapter 14	Sampling and Simulation	<ul style="list-style-type: none"> • Common sampling techniques • Surveys and Questionnaire design • Simulations

LESSON PLANS AND ANNOUNCEMENTS (Can be found on my webpage)

1. Go to www.isd511.net
2. Select MS/HS tab
3. Select Math ->Robert Remme

GRADING:

Students will earn their grade based on total points.

- These points will come from Daily Assignments, Tests and Quizzes, Vocabulary and Chapter Projects.

Grades will be updated every week by 4:00 p.m. on Fridays. To view your grade, access the school website and select Infinite Campus Parent Login.

GRADING SCALE:

LETTER GRADE	PERCENTAGE
A	94 – 100
A-	91 – 93.9
B+	89 – 90.9
B	86 – 88.9
B-	83 – 85.9
C+	80 – 82.9
C	77 – 79.9
C-	74 – 76.9
D+	71 – 73.9
D	68 – 70.9
D-	65 – 67.9
F	0 – 64.9

Grading Periods End

Quarter 1:	November 4
Quarter 2:	January 13 (End of 1 st Semester)
Quarter 3:	March 17
Quarter 4:	May 26 (End of 2 nd Semester)

Incomplete Grades: If you are given an incomplete you will have 2 weeks following the end of a grading period to complete the work. Failure to complete the work will result in a failing grade for the course.

NOTE: To receive 1 credit in this full year course, you must successfully complete both semesters with a passing grade. Semester(s) failed will be repeated at a passing level in order to earn the credit for the course.

REQUIREMENTS:

All students will participate in individual and small group learning opportunities. Students will be required to practice each skill introduced through homework and activities. Some class time will be given during the hour for guided practice; however, there will be some homework to do outside of the classroom. During the lectures, students are expected to follow along with the lecture by answering questions, and taking notes. Notes will be graded periodically.

HOMEWORK/LABS/VOCABULARY INFORMATION:

Homework is an essential piece of the puzzle in any math course. As a rule, there will be some type of assignment every day. Routinely, the assignment should take about 30 minutes to complete; it should NOT be considered a TEST of knowledge, but rather an opportunity for practice and to increase knowledge. There will be work time in class to

work on the assignments, but you may have to do some outside of class. The next day we will go through the assignment to check your understanding.

Homework WILL NOT be collected every day. It is your responsibility to complete the assignment given so you are prepared for the tests and quizzes. If it is not collected, you will receive 5 completion points daily for completing the assignment. When it is collected, it will be graded for points. You are required to show the work on each problem when necessary.

You can expect short quizzes from the previous lesson on a regular basis to check your understanding. The quiz will be on your own so I can see your progress. These quizzes will be similar to the homework, so if you do your homework by yourself, you will be fine on the quizzes.

Vocabulary is very important in understanding mathematics. You will receive the list of words at the beginning of the chapter and will be expected to write a definition/give an example of each word. These will be graded at test time and you will have those words on the chapter test.

Chapter Projects: Throughout the year, students will have the chance to work on Chapter Projects that go with the sections/chapter. Students will usually work with a group. All projects will be graded on a rubric and may be presented to the whole class.

TEST AND QUIZ INFORMATION:

Tests will always be announced 2 days prior.

Quizzes may be announced or unannounced.

Make sure to come in before class or after school if you have questions on the material.

NOTE: I will not answer questions during the test or quiz. This is your opportunity to show me what you know on the material.

There will always be a review day before a Chapter Test. No review day for a Quiz.

If you are absent the day of a test or quiz, you will be expected to make it up the day you return.

PROCEDURES AND POLICIES:

Absences:

- If you are absent from class, it is your responsibility to get the assignment and notes. You have 2 days to complete any missed work for each day that you were absent. (However, the building administrator or teacher may extend the time for completion of make up work in the case of an extended illness or other

extenuating circumstances. When you return, please see me for your assignments that you missed.

- If you are going to be absent from class due to a school event, please see me before you leave the building for the event to get your assignment for the day. **Note:** Your assignment is due at the same time as those who were in class.
- If you are taking a trip, you are expected to let me know in advance that you will be gone. Assignments will be given to you and will be expected to be caught up when you return. You will also be expected to have me fill out an assignment absent slip from the office. Once the work is completed and turned in, I will sign off on the sheet. Copies will be kept in the office.

Tardies:

- If students are not in their assigned seats when the bell rings, they will be marked tardy for class. Students that are tardy will need to get a pass from the Office in order to return to class.

Late Work:

- 10% is taken off for every day late. No Late Work will be accepted after 1 week.

Cell Phones:

- No cell phones are allowed in class. Anyone caught using a cell phone in class, will have it taken away and it will be turned into the High School Office.

No Food and Drink is allowed in the classroom.

Cheating:

- Anyone who is caught cheating on a test, quiz, or homework assignment will receive a zero for that assignment.

Note taking: During the lectures, students are expected to follow along with the lecture by answering questions, and taking notes. Notes will be graded periodically.

Visitors: Must have approval from the office and must notify me prior to class. All visitors will sit in the back of the room.

<u>EXPECTATIONS</u>

- Follow all rules found in the AHS Handbook.
- Be respectful of your teacher, your classmates and their property and AHS property. No writing on desks, books, bulletin boards, etc. If caught, you will receive time after school cleaning my room.

- Students are expected to treat others with respect. The classroom is a place of learning. It should be picked up and materials used put back in their proper places when the class time is completed. **Note:** No classroom calculators will leave the room.
- Follow directions the first time they are given to ensure effective use of class time. Use your class time appropriately when you have the chance to work. Speak at appropriate times using appropriate voice and language. If you wish to talk, please raise your hand! No talking or getting up when others are speaking. You will give me your full attention.
- Students must come prepared to class. You will not be allowed to go back to your locker once you are in my room. Bring your textbook, binder, notebook and calculator everyday. Also, any assignment that is to be turned in.
- Pencil is to be used on all homework, tests and quizzes. Pen will not be accepted!
- Students will complete all homework (on time) and to the best of their ability. If you are having difficulties, please see me for additional help. **Do Not get behind!** Listen carefully to instructions, discussions, and take notes. Always be sure you understand what is being said. If you don't understand, please ask!
- Students will take a pass with my signature with them when they leave the room to go to the restroom or office. However, please try to take care of restroom or locker trips before class. **Note:** No one is allowed to get up or ask to leave during the lecture, unless it is an emergency!

CONSEQUENCES:

Students who cause discipline problems in class will face the following consequences:

1. Verbal warning: Students will be confronted and asked to stop the inappropriate behavior. The incident will be marked down in the grade book as a warning.
2. If students act up after the warning, they will serve detention with me for 30 minutes before or after school the next day. I will also call or email the parents or guardians on the day of the altercation.
3. If students continue to be disruptive, not following the classroom rules, they will be sent to the office for disciplinary action.

Mathematics requires daily practice. Please, if you need help, don't wait till the last minute to ask for it. Please stop by for help or clarification no matter how "small" a problem you think it is. My door is always open!

I look forward to working with you this year! Let's have a GREAT YEAR!

Mr. Remme