AP Statistics Course Syllabus
Mansfield High School
2016-2017

Course Information: The purpose of this course in statistics is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to the four broad conceptual themes which follow:

1. Exploring data – observing patterns and departures from patterns;
2. Planning a study – deciding what and how to measure;
3. Anticipate patterns – producing models using probability and simulation; and
4. Statistical inference – confirming models. This is a communications course in which students are taught to analyze data utilizing calculators and computers.

Note from instructor: Statistics will be different from any math course students have taken to date. Although numeric calculations are important, a greater emphasis is placed on a student's ability to arrive at a conclusion, make a judgment, and articulate how their statistics supports their conclusion.

Teacher Information:

Michele Hamilton, AP Statistics & Algebra 2   MicheleHamilton@misdmail.org

Philip Lesko, AP Statistics, AP Calculus AB and BC   PhilipLesko@misdmail.org

Textbook: *Stats Modeling the World, 4th Edition*, (Bock, Velleman, De Veaux). Your student issued iPad will give you access to your textbook. It is imperative you bring your iPad every day to class. If you do not have an iPad, the textbook is accessible through an internet browser which you may access through your smartphone and/or laptop. Your enrollment code will be given to you by your teacher.

Notes, worksheets, reviews, textbook readings by chapter, etc. can be accessed through Google Drive. You may either use your personal Gmail account or your misdmail.net Google account to add the folder to your drive. http://bit.ly/mhsapstats

Optional AP Exam Preparation Resources: Barron's AP Statistics 8th Edition (Martin Sternstein, Ph.D.), or other similar AP test prep books.

Materials:

Required Supplies

- Paper (spiral or loose leaf)
- Folder or binder (can be used for multiple classes)
- School-issued iPad or other electronic device
- 2-pack AAA batteries (if using classroom calculator)

Choose 1 to be left in room

- Box of tissues **OR**
- Package of pencils **OR**

> It is **highly** recommended that students have their own **GRAPHING CALCULATOR** (any version of TI-84 is preferred). However, there are graphing calculators available for in-class use only. Each student will assume full responsibility for the borrowed calculator during class time. The cost for a TI-84 Plus is approximately $110.

- Instant Hand Sanitizer

Course Calendars: Students will be given an updated course calendar each grading period which will include dates for exams, quizzes, major assignments, or other means of assessment.

Grading Policy: The district grading policy stipulates the following category percentages for all AP Statistics classes.

- Major Grades: 70%
- Quizzes: 25%
- Daily Work: 5%
- Number of Grades each six weeks: Minimum 8 grades with at least 2 per each grading category
- Semester average
  First Six Weeks = 26%, Second Six Weeks = 26%, Third Six Weeks = 27%, Semester Exam = 20%

Test Retakes:

- Students who fail a major test/assessment (below 70%) will be allowed to retake or correct up to a 70% grade. This does not include semester examinations.
- Students are expected to make arrangements with the teacher to retake or correct a major test/assessment.
- Students are encouraged to participate in tutoring opportunities before retaking a test.
- All retakes or corrections must be completed prior to the end of each grading period unless the student is afforded time, after the grading period, as a result of the district's absent/make-up guidelines.

Tardy: See MHS Student Handbook; all procedures will be adhered to. Make sure you are aware of and understand the policies.

Absences: An absence is defined as missing more than 20 minutes of class, whether it is at the beginning, middle or end of the class period. So if you need to leave early for a doctor's appointment, please schedule it so you do not have to leave until the last 20 minutes of class. Refer to student handbook for more information regarding tardies and absences.

Class participation: Active participation is a must in this course. Students will also be working in groups throughout the year and will also need to be able to discuss and debate different results that we reach during our investigations. One class participation daily grade will be given per grading period.

Missed Exams or Assignments: Students are expected to complete all assignments by the given deadlines. If a student has an excused absence on the day of a test/quiz or on the day an assignment is due, the student will be expected to take the test/quiz or submit the assignment upon the student's return to class, without penalty. For example, if a student is absent one day and a quiz is administered in class, then that student is expected to make up the test/quiz on the day they return to class. Students may be assessed a penalty of no more than 30 points per day for up to one class period before a zero may be given for work not turned in on time. For multiple absences on continuous days, arrangements should be made with the instructor to

determine deadlines for missed work. *It is the student's responsibility to request make-up work and to communicate with the instructor.*

Academic Dishonesty: We know students are under tremendous pressure here at Mansfield High School. We have respect and admiration for those of you that are successful and hard working. Please do not ruin this image by cheating. If you are caught cheating in AP Statistics, you will receive a zero on that test/quiz or assignment and an office referral. See MHS Student Handbook for further details.

Classroom Expectations:
1. Appropriate learning environment behavior is expected.
2. Appropriate personal behavior is expected.
3. All school rules will be enforced.
4. A positive attitude is expected.
5. Come to class prepared to learn.
6. Students will not be allowed to work on another class's work until I am satisfied that you have successfully completed my work.
7. Students may bring drinks into class as long as they have a lid.
8. Students may have snack-type of food as long as I can't hear it or smell it.
9. Students are expected to leave the room neat and clean.
10. Calculators will be issued at the beginning and returned at the end of each class.

Course Outline

Part I

1 Stats Starts Here

2 Data

3 Displaying & Describing Categorical Data

4 Displaying and Summarizing Quantitative Data

5 Understanding and Comparing Distributions

6 The Standard Deviation as Ruler and the Normal Model

Part II

7 Scatterplots, Association, and Correlation
8 Linear Regression (including a test)
9 Regression Wisdom
10 Re-Expressing Data

Part III

11 Understanding Randomness
12 Sample Surveys
13 Experiments

Part IV

14 From Randomness to Probability
15 Probability Rules! 16 Random Variables
17 Probability Models

Part V

18 Sampling Distribution Models
19 Confidence Intervals for Proportions
20 Testing Hypotheses about Proportions
21 More About Tests
22 Comparing Two Proportions

Part VI

23 Inferences about Means
24 Comparing Means
25 Paired Samples and Blocks

Part VII

26 Comparing Counts
27 Inferences for Regression

Review for the AP* Exam, with a practice exam

Post AP Exam
End-of-the-year project, adequate class time permitting

Printed Student Name: _____ Calculator Number: _____

Math Department Calculator Contract

Every student will have a TI-84 calculator available for them to use during class time. Once a student and his/her parent signs this contract and the student brings in 2 AAA alkaline batteries, they will be issued a calculator. If a teacher observes a student either using a calculator inappropriately or damaging a calculator in any way the following consequence will occur: the student will lose school graphing calculator privileges for the reminder of the school year and could be required to pay a fine up to the value of the calculator for any damage caused
In the event that a student loses a calculator, they must pay for the replacement cost of the calculator. Approximate cost for a TI-84 calculator is $110.

Students must always use the same calculator assigned to them while in the classroom and notify their teacher immediately if there is any prior damage to the calculator. Students are responsible for the calculator assigned to them during a class period whether they are using the calculator or not.

Students who already own a graphing calculator may which to have their parents sign this contract in case they forget their calculator or the batteries died. Please write BACKUP on this form and no specific number will be assigned for their daily use.

By signing here, I understand that I am responsible for the calculator I use during class. I will pay for the replacement of that calculator if it is lost or damaged.

_____   _____
Student Signature   Parent Signature

I acknowledge that I know where the AP Statistics syllabus is located and am aware of the policies, rules and expectations for the class.

_____   _____
Student Signature   Parent Signature