

# WHEELER HIGH SCHOOL COURSE EXPECTATIONS

## *AP STATISTICS*

*Mr. James Cervini*

*cervinij@northstonington.k12.ct.us*

*Room #225*

### *I. Course Overview:*

- Exploratory analysis of data makes use of graphical and numerical techniques to study patterns and departures from patterns. In examining distributions of data, students should be able to detect important characteristics, such as shape, location, variability and unusual values. From careful observations of patterns in data, students can generate conjectures about relationships among variables.
- Data must be collected according to a well-developed plan if valid information is to be obtained. If data are to be collected to provide an answer to a question of interest, a careful plan must be developed. Both the type of analysis that is appropriate and the nature of conclusions that can be drawn from that analysis depend in a critical way on how the data was collected. Collecting data is essential in the data analysis process.
- Probability is the tool used for anticipating what the distribution of data should look like under a given model. Random phenomena are not haphazard: they display an order that emerges only in the long run and is described by a distribution. The mathematical description of variation is central to statistics.
- Statistical inference guides the selection of appropriate models. Models and data interact in statistical work: models are used to draw conclusions from data, while the data are allowed to criticize and even falsify the model through inferential and diagnostic methods. Inference from data can be thought of as the process of selecting a reasonable model of how confident one can be about the selection.

### *II. Overall Course Objectives:*

- Students will be able to independently use their learning of graphical and numerical analysis of data distributions to determine if discrimination exists in hiring practices.
- Students will be able to independently use their learning and knowledge of the mean, standard deviation and normal distributions to analyze standardized test results.
- Students will be able to independently use their learning and knowledge of scatterplots, correlations, and least squares regressions to determine the relationship between endangered species and modern technology.
- Students will be able to independently use their learning of sample surveys, experiments, and observational studies to design a study to measure the effect of texting on high school class work.
- Students will be able to independently use their learning of randomness, probability and simulation to understand the operations of casinos.
- Students will be able to independently use discrete and continuous random variables to analyze medical test results to determine how often false positives occur.
- Students will be able to independently use their learning of data exploration, planning studies and probability to estimating endangered species populations from sample data.

- Students will be able to independently use their learning of data exploration, design of experiments, probability and sampling distributions to analyze 911 call response times.
- Students will be able to independently use their learning of data exploration and experimental design to determine the effect of steroids on baseball records.
- Students will be able to independently use their learning of population comparisons to determine the accuracy of fast food restaurant servers.
- Students will be able to independently use their learning and knowledge of chi-square tests and inference to determine if M&Ms contain the correct amount of each color.

III. *Wheeler High School Academic Expectations:*

- Analysis (Met in this class)
- Collaboration
- Communication
- Literacy

IV. *Material Required:*

- Notebook: 3-Ring Binder OR Spiral Notebook (3 sections in either)
- Textbook: *The Practice of Statistics- 5<sup>th</sup> Edition 2014- Starnes and Tabor*
- Pencils and erasers
- TI-84 or better graphing calculator

V. *Class/Behavior Expectations:*

- Cell phones should not be on a student's desk unless directed to be used by a teacher for class purposes;
- Students should not be talking on cell phones during class.
- Cell phones should not be used to record or photograph students or teachers without their permission. If this occurs, students will be disciplined appropriately and will automatically lose their privilege of carrying a cell phone during the school day for the remainder of that school year;
- Cell phones are not allowed in classrooms during mid-term or final exams and they cannot be used for their calculator during such assessments.
- **No hats allowed in the classroom.**

VI. *Attendance Policy (BOE Policy #5113) – as stated in handbook:*

The North Stonington Public Schools believes that regular school attendance is essential for an effective and productive learning experience. The sequential presentation of school learning requires a continuity of instruction. The maximum benefits for each individual child can be achieved only from participation and interaction in daily activity. In addition to instruction, other learning processes take place each day that are vital to a student's overall emotional and social growth. Time lost in school is irretrievable in terms of instructional opportunity and social interaction.

*A student is considered to be “in attendance” if present at their school, or an activity sponsored by the school (i.e., field trip), for at least half of the scheduled school day. Any student in school for less than half of the scheduled school day will be considered absent. A student serving an out-of-school suspension or expulsion will be considered absent.*

### Excused Absence

The Board believes a student should not be absent from school without the parents’ knowledge and consent, therefore verification of an absence should be in writing by a parent or guardian. The first nine (9) absences will be considered excused if a parent approves the absence and if it is properly documented with a signed note from a parent or a notation is made in the student’s attendance record by a school official who received either a verbal or electronic communication from the parent.

For the tenth (10) absence and all absences thereafter, absences will be considered excused for the following reasons:

- a. Student Illness (verified by a medical professional);
- b. Student observance of a religious holiday;
- c. Death in a student’s family or emergency beyond the control of the student’s family;
- d. Mandated court appearance
- e. Extraordinary educational opportunities (i.e., college visits) pre-approved by district administrators and in accordance with SDE guidelines.

There shall be no penalty for an excused absence. Students are encouraged to bring notes from their parent/guardian or physician to the Main Office on the day of return to school. These notes must specify the reason(s) for the absence and must conform to the Board of Education Policy # 5113. Excused absences will be marked in PowerSchool, and students will be allowed to make up all work missed. When a student is absent for extended periods of time--more than three days--parents may obtain assignments from the teachers through the counseling office. Failure to make up assignments may result in a grade of zero for each missing assignment. A student may expect to have one day for each day of absence in order to make up missed work.

### Unexcused Absence:

An unexcused absence occurs when a student is out of school beyond the first nine (9) absences, parent documentation is not provided for the first nine (9) absences and the absences does not meet one of the excused absence reasons listed above. For every unexcused absence, the student will not be allowed to make up or receive credit for work missed.

### Tardy to Class:

If a student is more than fifteen (15) minutes late for class, other than because of a school-sanctioned event, he or she will be considered absent from class.

### Limit on Total Number of Absences (High School Only):

No student will receive course credit for a full year course after having been absent from that course for more than twenty (20) class periods (excused or unexcused) during the school year for reasons other than school sponsored activities (i.e. field trips).

VII. *Grading Policy (percentages, total points, etc.):*

- TESTS - There will be a 100 point test given after every chapter. There are no retakes or tests dropped. If a student is absent they will take the test the next day.
- FRAPPY – There will be a FRAPPY (Free Response AP Problem, Yay!) given every chapter. They are open notes. Every FRAPPY is worth 25 points.
- HOMEWORK - Homework will be assigned on a bi-weekly basis. Homework will be collected and graded out of 25 points. Late assignments will lose points.
- FINAL PROJECT – The final project will be a small group project in which students will collect their own data and apply statistical testing and analysis to prove or disapprove of a hypothesis. More on the details at a later date.

VIII. *Final Assessment Policy*

For one-credit, full-year courses, examinations are given at the conclusion of each semester—one at the midpoint and one at the end of the school year. For half-credit courses, a final will be given at the end of the semester. All examinations, except in selected classes, are one and one-half hours in length. All students must arrive on time and remain in class for the full duration of the exam period. Students taking the AP test will not be required to sit for a final exam. Seniors are exempt from taking a final exam with a 90% or higher in that class. Normally, no excuse for missing an exam other than illness will be accepted. The Principal must give such permission.

AP EXAM – This is an exam that all students will take in school on a given date in May which will give students credit that can be applied to a student’s college graduation requirement. More on the details will be given at a later date.

IX. *Academic Integrity Statement*

The faculty and administration of Wheeler Middle/High School demand high standards of academic performance and academic honesty. Anything less would jeopardize quality education and allow our students to deny themselves needed skills and knowledge. For this reason students who cheat on their assigned work, reports, research papers, quizzes, tests or examination risk prompt and punitive action by both their teacher and the school. Examples of violations may include, but are not limited to:

- Giving or receiving aid on tests and graded assignments
- Unauthorized talking during tests
- Copying regular homework/exercises
- Unapproved discussion of examinations/assignments contents
- Cheating on peer reviews of student work
- Misuse of technology

X. *Teacher Availability for Extra Help (Day and Time):*

- XBlock every day
- After school until 2:45-3:00