



Chesapeake Bay Governor's School
For Marine and Environmental Science
Warsaw Campus

Statistics (MTH 240)

Spring 2017

Mark D. King

Course Description:

The Statistics course, typically taken in the junior year, will cover one semester and will present an overview of statistics, including descriptive statistics, elementary probability, probability distributions, estimation, hypothesis testing, and correlation and regression. Students will apply statistical methods to their two-year research paper.

Text:

Triola, Mario F. *Elementary Statistics*. 11th ed. Boston, MA: Pearson, 2010.

*Your textbook is the property of CBGS. Please **cover** your textbook and keep it covered all year!*

Course Credit:

3 dual enrollment credits

½ high school credit

Contact Information:

Office: (804) 333-1306

E-mail: mking@cbgs.k12.va.us

Required Materials:

Students will need a notebook (or 3-ring binder), pencils, erasers, graph paper, and a graphing calculator.

Schedule of Topics Covered:

Unit 1 (Chapter 1):

- Course Introduction
- Methods of Data Collection and Sampling
- Observational and Experimental Studies
- Interpreting Statistics

Unit 2 (Chapter 4):

- Probability

Unit 3 (Chapters 2 and 3):

- Methods of Organizing and Presenting Data
- Distributions of Data
- Measures of Central Tendency

Unit 4 (Chapter 3 and 6):

- Measures of Variation
- Standard Error

Unit 5 (Chapters 3 and 6):

- Properties of a Normal Distribution
- The Standard Normal Distribution
- Measures of Position
- The Central Limit Theorem

Unit 6 (Chapter 7):

- Confidence Intervals

Unit 7 (Chapter 8):

- Methods of Hypothesis Testing
- z Tests for the Mean
- t Tests for the Mean
- Testing the Difference Between Two Means

Unit 8 (Chapter 10):

- Correlation
- Regression

Unit 9 (Chapter 11):

- Analysis of Variance

Additional topics may be covered if time permits.

Course Information and Policies:

Assignments:

The course will involve a significant lab component in lieu of unit tests. Students will be expected to apply their knowledge of statistical methods to data sets much like those they might encounter working in the field as marine and environmental scientists. Although

students will work together on the labs, each student must turn in his or her own work and will be graded individually. Students should also expect short periodic quizzes. Students will be assigned homework in MathXL on a regular basis. Worksheets, problems from the textbook, projects, or other forms of assessment may also be periodically assigned. There will be a final assessment at the end of the semester.

Grading:

MathXL assignments will be graded based on the student's final score upon submission. Homework assigned from the textbook will **not** be graded unless I indicate otherwise.

Assignments will be graded on a point system. Each assignment has a specific number of points available and will be provided with each assignment. Your grade for that assignment can be found by dividing the points received by the total points available. Labs will be worth considerably more points than other assignments. Your final assessment will be worth 10% of your final grade.

I will regularly post grades on Schoology.

Letter Grade:

98 – 100%: A+
93 – 97%: A
90 – 92%: A-
87 – 89%: B+
83 – 86%: B
80 – 82%: B-
77 – 79%: C+
73 – 76%: C
70 – 72%: C-
67 – 69%: D+
63 – 66%: D
60 – 62%: D-
57 – 59%: F+
Below 57%: F

Make-up work policy:

If you miss a class, you are responsible for finding out which assignments you missed and for getting class notes from another student. Since MathXL assignments are available online, you should check MathXL daily while you are absent and attempt to keep up with missed assignments as much as possible. Late penalties will be removed from these assignments if they are made up within a timeframe approved by the instructor.

If you are absent on the day of a test or quiz you will be required to make it up after you return to class within a timeframe determined by the instructor. It will be your responsibility to arrange for a time to make up missed tests or quizzes.

Attendance:

Class attendance is required and you are expected to be on-time. The course attendance policy can be found in the Student Handbook. I will record absences and tardiness for each class.

Academic Dishonesty:

As set forth in the Student Handbook, students are required to abide by the CBGS Student Honor Code. If academic dishonesty is discovered, the honor code mandates severe and specific penalties that **will** be enforced.

Cell Phones:

Students are required to **turn off (or silence)** and **put away** their cell phones once class begins. Students may use their phones in class only as instructed by the teacher. Playing games, taking photos, or texting friends is never acceptable. The official CBGS cell phone policy can be found in the Student Handbook.