

Course Syllabus

Course Description Welcome to Statistics B! This course is designed to follow Statistics A. It continues with the concepts that were taught last semester. You will learn the other side of statistics, probability. In statistics, you learned how to make assumptions about an entire population based on a sample. In probability, you will learn how to make predictions about a sample based on knowing about the population.

Course Objectives This discipline is an introduction to the study of probability, interpretation of data, and fundamental statistical problem solving. Mastery of this academic content will provide students with a solid foundation in probability and facility in processing statistical information.

- 1.0 Students know the definition of the notion of independent events and can use the rules for addition, multiplication, and complementation to solve for probabilities of particular events in finite sample spaces.
- 2.0 Students know the definition of conditional probability and use it to solve for probabilities in finite sample spaces.
- 3.0 Students demonstrate an understanding of the notion of discrete random variables by using them to solve for the probabilities of outcomes, such as the probability of the occurrence of five heads in 14 coin tosses.
- 4.0 Students are familiar with the standard distributions (normal, binomial, and exponential) and can use them to solve for events in problems in which the distribution belongs to those families.
- 5.0 Students determine the mean and the standard deviation of a normally distributed random variable.
- 6.0 Students know the definitions of the mean, median, and mode of a distribution of data and can compute each in particular situations.
- 7.0 Students compute the variance and the standard deviation of a distribution of data.
- 8.0 Students organize and describe distributions of data by using a number of different methods, including frequency tables, histograms, standard line and bar graphs, stem-and-leaf displays, scatterplots, and box-and-whisker plots.

This semester will focus on standards 1.0 - 4.0 while reviewing the remaining standards.

Course Policies and Procedures Students are expected to read materials, ask questions, and complete all assignments in a timely manner. All work will be submitted online using the drop box or document sharing tools.

Calculators are allowed and encouraged for all assignments. Students should show work that demonstrates full understanding of the concepts, not just an ability to plug numbers into a calculator or computer system. Student work must be done independently unless specifically stated otherwise. Plagiarism will not be tolerated.

This course does not require a textbook. All of the course materials will be online so reliable Internet access is imperative.

Students should expect to spend 10 - 12 hours per unit to complete the reading, online activities, discussions, assignments, studying, and exams. Attendance during specific times are not required but students need to structure their own time to learn content and complete assignments.

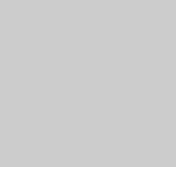
Students are expected to use email or the online discussion forums to ask questions about the course content, assignments, deadlines, technical problems, etc. (Do not hesitate to ask!) Additionally, students should review questions from other students and answer them if possible. This is a course where interaction between classmates will enrich the learning process.

Parents will be notified via progress reports throughout the semester. Additionally, parents are encouraged to follow their child's progress by reviewing their work and online gradebook. Parents may contact the instructor by email to ask questions about their child's progress or course expectations.

Textbook(s) No textbooks will be required for this course.

Grading Policy In addition to assignments and tests, students are expected to read all materials, do all practice problems, and follow all links to off-site simulations and activities. Grading will be based on assignments, participation, exams, and the final project.

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| 32 | Assignments (40 points each) |
| 8 | Class Participation including unit discussions |
| 40 | Exams (40 points for unit quizzes, 60 for midterm, 100 for final) |
| 20 | Project (200 points) |
| A | 90.0% - 100% |
| B | 80.0% - 89.9% |
| C | 70.0% - 79.9% |



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| D | 60.0% - 69.9% |
| F | 0 - 59.9% |
