

Math 313: Probability and Statistics

Instructor: Neil Martinsen-Burrell (Science Center 363, 319-352-8420, nmb@wartburg.edu)

Class web page: <http://mcsp.wartburg.edu/nmb/math313>

Office hours: MWF 9-10, T 1:30-2:30 or by appointment

Class meets: Science Center 041, MWF 2:30–3:35

Prerequisites: MA 202

Text: Wackerly, Mendenhall and Scheaffer, *Mathematical Statistics with Applications*, 6th edition.

Description: Study of theoretical probability distributions that are models of empirical distributions of data generated through counts or measurements. Elementary probability and counting techniques, such as permutations and combinations. Continuous random variables modeling waiting time, lifetimes of components, masses of particles.

Objectives: Upon completion of this course, students should

1. be able to reason and solve problems using system of numeric or symbolic concepts to generate a solution to problems encountered throughout a variety of real world applications.
2. become skilled in probability, distribution theory, point and interval estimation, hypothesis testing, and regression.
3. recognize errors, fallacies, or distortions in the presentation of logical arguments, problem solutions, or displays of quantitative information.
4. make connections between their field of interest and statistics.

Homework: Homework will be due weekly on Monday and assignments will be given in class and posted to the course web page. You are *strongly encouraged* to try the week's homework before Friday so that you can ask questions in class or in office hours before the weekend. If you would like to see me outside of office hours, I am not always available so *please* make an appointment so that we are able to connect.

Collaboration is an mathematical important skill, particularly in statistics where work often crosses disciplinary lines, so collaboration on homework is allowed and encouraged. **But** copying from another person is prohibited in accordance with the Honor Code (see below). Think of your classmates as reference materials for your homework, and remember to cite your references: "I consulted Daffy Duck on the above problem."

Exams: There will be two midterm exams and one cumulative final exam (Wednesday, December 13, 3:00 pm).

Grading:

Homework 30%

Midterms 40%

Exams 30%

Grading will be relative to the performance of the rest of the class, with the exception that a 90% will guarantee you at least an A-, 80% a B-, 70% a C- and 60% a D.

Academic Honesty: By attending Wartburg College, students pledge their dedication to the Honor Code.

As a matter of personal commitment, students, faculty, and staff of Wartburg College are expected to demonstrate four simple principles.

1. All submitted work must be your own.
2. When using the work or ideas of others, including fellow students, provide full credit through accurate citations.
3. Ask for clarification if there is uncertainty about citation rules on a particular assignment.
4. Maintain academic honesty on examinations and class assignments.

Academic dishonesty will result in consequences between a failing grade for that assignment and a failing grade for the course.

Special Needs: The Americans with Disabilities Act of 1990 (ADA) provides protection from illegal discrimination for qualified individuals with disabilities. Students requesting instructional accommodations due to disabilities must arrange for such accommodations by contacting the Dean of Students Alexander Smith (STU 195, 352-8260, alexander.smith@wartburg.edu) Accommodation should be requested *prior* to affected assignment due dates.