

Module 1 objectives, assignments, and supplementary materials

Learning Objectives

Upon successful completion of Module 1, you will be able to:

- Understand the different definitions of probability.
- Understand the meaning of conditional probability.
- Compute conditional probabilities using Bayes' theorem.
- Understand probability distributions, including probability density functions.
- Compute probabilities of outcomes for basic distributions.

Assignments

This module has four required quizzes and an honors quiz. A score of 75% is required to pass. Quizzes can be attempted up to four times in an eight-hour period.

Additional Materials

In addition to regular lectures and quizzes, this module includes the following materials.

Lesson 1: Probability

- Background reading: This reviews the rules of probability, odds, and expectation.
- Discussion prompt: Read what your peers have to say about the prompt and share your ideas on the discussion board.

Lesson 2: Bayes' theorem

- Supplementary reading: This optional reading extends Bayes' theorem beyond just two possibilities. It will also be helpful for the Lesson 2 quiz.

Lesson 3: Review of distributions

- Supplementary reading: This reading provides a vital reference for future lessons. It includes a review of indicator functions; expectation and variance; important probability distributions that will be used throughout the course (some not included in the lesson videos); the central limit theorem; and the continuous version of Bayes' theorem.