Suggested reading: OpenIntro Statistics, 3rd edition, Chapter 2, Section 2.2

LO 1. Distinguish between marginal and conditional probabilities.

LO 2. Construct tree diagrams to calculate conditional probabilities and probabilities of intersection of non-independent events using Bayes'

$$P(A|B) = \frac{P(A \text{ and } B)}{P(B)}$$

Test yourself: *50% of students in a class are social science majors and the rest are not. 70% of the social science students and 40% of the non-social science students are in a relationship. Create a contingency table and a tree diagram summarizing these probabilities. Calculate the percentage of students in this class who are in a relationship.*