

STA 371G Outline

Fall 2017

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Office Hours: Monday & Wednesday 5:00-6:15 PM. You are welcome to come by my office at other times.

Wednesday, August 30

Topics:

- Introduction
- Probability
- Random variables

Reading Assignments:

You are recommended to read:

Chapter 1 of OpenIntro Statistics, 3rd edition

Wednesday, September 6

Topics:

- Probability distributions
- Mean, variance and standard deviation of a random variable

Reading Assignments:

If you are not familiar with the topics discussed in class, you are recommended to read:

pp. 156-168, 189-195, of Data analysis and decision making, 4th edition

or

pp. 196-206, 225-231 of Data analysis and decision making, 3rd edition

You are also recommended to read:

pp. 1-14 of “1TopicSummary_ProbabilityConceptsAndNormalDistributions.pdf” (available in Canvas/files)

To learn more about these topics, you may further read:

Chapters 2.1, 2.2, 2.4, and 2.5 of OpenIntro Statistics, 3rd edition

Monday, September 11

- Add a constant to a random variable
- Multiply a random variable by a constant
- Independent random variables, sum of independent random variables
- Continuous random variables
- Probability density function: area under the curve represents probability
- Standard normal distribution $Z \sim \mathcal{N}(0, 1)$
- Normal distribution $X \sim \mathcal{N}(\mu, \sigma^2)$
- If $X \sim \mathcal{N}(\mu, \sigma^2)$, then $P(X < x) = P(\frac{X-u}{\sigma} < \frac{x-u}{\sigma}) = P(Z < \frac{x-u}{\sigma})$.

Reading Assignments:

To get familiar with the normal distribution, you are recommended to read:

pp. 211-215, 217-225 of Data analysis and decision making, 4th edition

or

pp. 247-250, 253-260 of Data analysis and decision making, 3rd edition

You are also recommended to read:

pp. 15-30 of “1TopicSummary_ProbabilityConceptsAndNormalDistributions.pdf” (available in Canvas/files)

You may further read:

Chapters 3.1.1, 3.1.2, 3.1.4 and 3.1.5 of OpenIntro Statistics, 3rd edition