

# Stats For Data Science Outline

## Week 1

### 1. Day 1:

- Slides\_01a\_Introduction\_to\_Statistics.pdf
- Slides\_01b\_What\_is\_Data.pdf
- Notebook\_01\_Exploratory\_Data\_Analysis\_Part\_1\_Single\_Variable.ipynb (through measures of central tendency)

### 2. Day 2:

- Notebook\_01\_Exploratory\_Data\_Analysis\_Part\_1\_Single\_Variable.ipynb (measures of spread to end)
- Exercise\_01\_Single-Variable\_EDA.txt

## Week 2

### 1. Day 1:

- Review Exercise\_01
- Notebook\_02\_Exploratory\_Data\_Analysis\_Part\_2\_Two\_Variable.ipynb
- Exercise\_02\_Multi-Variable\_EDA.txt

### 2. Day 2:

- Slides\_02\_Probability\_Part\_1\_Basics\_to\_Conditional.pdf
- Start Slides\_03\_Probability\_Part\_2\_Random\_Variables.pdf, if time allows

## Week 3

### 1. Day 1:

- Review Exercise 02
- Finish Slides\_03\_Probability\_Part\_2\_Random\_Variables.pdf
- Notebook\_03\_Probability\_Calculations\_Binomial\_Normal.ipynb
- Exercise\_03\_Probability.txt

### 2. Day 2:

- Slides\_04a\_Estimation\_Part\_1.pdf
- Demonstration: demonstrations/Confidence Interval Demo.ipynb
- Notebook\_04a\_Estimation\_Part\_1.ipynb
- Exercise\_04\_Estimation.txt (Part 1)

## Week 4

### 1. Day 1:

- Review Exercise 03
- Slides\_04b\_Part\_2\_Estimation\_Cautions.pdf
- Slides\_04c\_Estimation\_Part\_3 .pdf
- Demonstration: demonstrations/Bootstrap\_Confidence.Interval\_Demo.ipynb
- Notebook\_04b\_Estimation\_Part\_2\_The\_Bootstrap.ipynb
- Exercise\_04\_Estimation.txt (Part 2)

### 2. Day 2:

- Slides\_05a\_Hypothesis\_Testing\_01\_Introduction.pdf
- Notebook\_05a\_Hypothesis\_Testing\_Part\_1.ipynb
- Exercise\_05\_Hypothesis\_Testing.txt Parts 1 and 2

## Week 5

### 1. Day 1:

- Review Exercises 04
- Slides\_05b\_Part\_2\_A\_B\_Testing.pdf
- Slides\_05c\_Hypothesis\_Testing\_02\_Permutation\_Tests.pdf
- Notebook\_05b\_Hypothesis\_Testing\_Part\_2\_Permutation\_Tests.ipynb
- Notebook\_05c\_Hypothesis\_Testing\_Part\_3\_Effect\_Size.ipynb
- Exercise\_05\_Hypothesis\_Testing.txt Parts 3 and 4

### 2. Day 2:

- Slides\_06\_Linear\_Regression.pdf
- Notebook\_06a\_Linear\_Regression.ipynb
- Exercise\_06\_Linear\_and\_Logistic\_Regression.txt Part 1

## Week 6

### 1. Day 1:

- Review Exercise 05
- Notebook\_06b\_Logistic\_Regression.ipynb
- Exercise\_06\_Linear\_and\_Logistic\_Regression.txt Part 2

### 2. Day 2:

- Review Exercise 06
- Assessment