

Date: 30.8.2020



## Introduction to Statistics 1 - 88760

**Type of course :** lecture/recitation

**Hours/credits:** 3.0

**Academic year:** תשפ"א (2019-20)

**Semester:** 1 (Fall)

### Course objectives:

- To gain familiarity with the basic concepts of statistics
- To learn and apply various methods to display and describe discrete and continuous data
- To be conversant with the principles of data collection
- To become a critical reader of statistical information

**Overview of the two-semester sequence:** Introduction to Statistics is a two-semester sequence (88760-61) covering the material typically taught in a one-semester 4 credit hour introductory statistics course. There is one lecture each week; material is covered at approximately half the rate of a one-semester course.

**Course Description:** This course provides an overview of statistics, concentrating on elementary concepts from descriptive statistics and the "why" and "how" of statistical methods. The first semester focuses on collecting, exploring, displaying and summarizing discrete and continuous data distributions.

### The Process of the Course:

The course consists of two hours of lecture (including use of statistical software for data analysis and statistical inference) and a one-hour recitation each week.

### Detailed list of topics

Topic	Required Reading	Other resources
Exploring and displaying data distribution for a discrete variable: <ul style="list-style-type: none"><li>• Graphically</li><li>• Frequency distributions</li><li>• Relative frequency distributions</li><li>• Examples from current events including COVID-19</li></ul>	Moore Chapters 0,1	Google Sheets News articles COVID-19 related websites
Producing data: <ul style="list-style-type: none"><li>• Sampling</li><li>• Experiments</li><li>• Ethical considerations</li><li>• Examples from current events</li></ul>	Moore Chapters 8,9,10	News articles
Describing distributions <ul style="list-style-type: none"><li>• Measures of center</li><li>• Standard deviation</li><li>• Percentiles</li></ul>	Moore Chapter 2	Google Sheets News articles
Relationships between two variables <ul style="list-style-type: none"><li>• Scatterplots</li><li>• Correlation</li><li>• Regression</li></ul>	Moore Chapters 4, 5	Google Sheets News articles
Data distributions for continuous variables <ul style="list-style-type: none"><li>• From histograms to density curves</li><li>• The Normal distribution</li></ul>	Moore Chapter 3	Onlinestatbook.com

**Pre-requisites:** Algebra 2

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**Requirements and grade components:**

- Attendance/participation (10%)
- Homework/attendance (10%)
- Quizzes (20%)
- Final Exam (60%)

**Bibliography:**

Required Textbook:

- Moore, David S., William I. Notz and Michael A. Fligner, *The Basic Practice of Statistics*, 7<sup>th</sup> Edition, Macmillan, 2015

Recommended purchase/rental options:

- **Purchase/rent a printed edition; purchase an electronic edition from Amazon:**  
[https://www.amazon.com/Basic-Practice-Statistics-David-Moore/dp/146414253X/ref=sr\\_1\\_2?dchild=1&keywords=moore+the+basic+practice+of+statistics&qid=1598778084&sr=8-2](https://www.amazon.com/Basic-Practice-Statistics-David-Moore/dp/146414253X/ref=sr_1_2?dchild=1&keywords=moore+the+basic+practice+of+statistics&qid=1598778084&sr=8-2)  
Renting an electronic edition through Amazon is not recommended.
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