



תשע"ט: v

Introduction to Statistics 2

Type of course: lecture/recitation

Year of Studies: תשע"ט

Semester: B

Hours/credits: 3.0
(2+1 lecture/recitation)

Courses web site: tba

Course objectives:

- To acquire familiarity with the principles of statistical inference
- To learn and apply basic techniques of one- and two- sample statistical inference
- To understand the limitations of statistical inference
- To become a critical consumer of inferential statistics

Course Description: This course builds on concepts from descriptive statistics and probability to develop understanding of and appreciation for statistical inference. Topics include confidence intervals, significance tests and inference in one- and two- sample problems.

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 topic list

Topic	Required Reading	Comment
Sampling distributions (continued) <ul style="list-style-type: none"> • Central Limit Theorem • Sampling distributions for proportions 	Moore 15	
Confidence intervals <ul style="list-style-type: none"> • Margin of error • Effects of sample size, population size • Level of confidence 	Moore 16	
Tests of Significance (known σ) <ul style="list-style-type: none"> • Case study: normal data with known variance • Tests for population mean • Hypotheses, test statistic, P-value • Statistical significance • Cautions 	Moore 17,18	Online resources; technology resources

Inference about one population mean (σ unknown) <ul style="list-style-type: none"> • The t distribution • One-sample t confidence interval • One-sample t test 	Moore 20	Technology resources
Comparing two populations means* <ul style="list-style-type: none"> • Two-sample problems • Conditions • Two-sample t test 	Moore 21	Technology resources

*if time permits

Course structure:

Pre-requisites: Algebra 2, Introduction to Statistics A

Requirements:

- Attendance/participation (no cellphones in sight!).
- Quizzes (10%)
- Homework (5%)
- Midterm (20%)
- Computer proficiencies (5%)
- Final Exam (60%)

Bibliography:

Required Textbook:

- Moore, David S., William I. Notz and Michael A. Fligner, *The Basic Practice of Statistics, 7th Edition*, Macmillian, 2015

Required e-resources: OnlineStatBook Project

Recommended Textbook:

Mann, Prem S., *Introductory Statistics, Global Edition*

Purchase information:

<https://www.wiley.com/en-us/Mann%27s+Introductory+Statistics%2C+Global+Edition-p-9781119249047>