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| **Course Title** | |
| Introduction to Statistics and Data Analysis with R (0560.1823) | |
| **Lecturer** | |
| Dr. Adi Sarid | |
| **Semester** | |
| Spring 2021 (March thru June 21) | |
| **Course requirements** | |
| Introduction to Probability (0560.2801 or equivalent); Mathematical Methods 1 (0560.2802 or equivalent) | |
| **Final grade components** | |
| Final exam, Project (exact % split to be determined) | |
| **Course schedule** | |
| Subject and Requirements (assignments, reading materials, tasks, etc.) | Class no. / Date |
| Introduction + R lab | #1 (2021-03-03) |
| Point estimation methods and confidence intervals | #2 (2021-03-10) |
| Confidence intervals (continued) | #3 (2021-03-17) |
| Hypothesis tests (one sample) | #4 (2021-03-24) |
| Hypothesis tests (two sample and goodness-of-fit) | #5 (2021-03-31) |
| Selected exercises; R lab | #6 (2021-04-07) |
| Independence test | #7 (2021-04-14) |
| Hypothesis tests (variance comparison, proportions) | #8 (2021-04-21) |
| Simple linear regression | #9 (2021-04-28) |
| Multiple linear regression | #10 (2021-05-05) |
| Stepwise algorithm; Selected exercises | #11 (2021-05-12) |
| ANOVA; Guest lecture (TBA) | #12 (2021-05-19) |
| Selected exercises, test preparation | #13 (2021-05-26) |
| **Required course reading** | |
| Runger G. & D. Montgomery: Applied Statistics and Probability for Engineers. Wiley, 7th ed., 2018.  Walpole R.E., Myers R. H, Myers S. L., and Ye K.: Probability & Statistics for Engineers & Scientists. Prentice Hall, 9th ed., 2011. | |
| **Optional course reading** | |
| Diez, D. M., Barr, C. D., & Cetinkaya-Rundel, M. (2012). OpenIntro statistics (pp. 174-175). OpenIntro.  Wickham, H., & Grolemund, G. (2016). R for data science: import, tidy, transform, visualize, and model data. " O'Reilly Media, Inc.". | |
| **Comments** | |
| Course repository located at <https://github.com/adisarid/intro_statistics_R> | |