

Fall 2020

CS 636-103: Data Analytics with R Program

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General Information Class meeting times and other contact details in Canvas ([LINK](#))

Description (from NJIT Catalog)

This course covers data analytics with R programming. The student will learn and gain basic analytic skills via R language. The course covers fundamental knowledge in R programming. Popular R packages for data science will be introduced as working examples. The course also includes case studies on data analytics projects. As a core course in data science, it provides skills that are highly desirable for both industry and academic employers.

Pre-requisites (from NJIT Catalog)

Entry-level courses in programming, probability and statistics (e.g. MATH333, CS280) or permission of instructor. If your academic background is non-tech please see me.

Grading

50% 3-6 group projects

50% Exams, which may be 25-25 Mid-Final OR 10-20-20 Quiz-Mid-Final

(Exams will be proctored by ProctorU / Respondus / live systems.)

Schedule and topics

Note: schedule may be fine-tuned with additional topics of interest

Week 1, 2: Introduction, R Nuts and Bolts (I) and (II)

Week 3, 4: Get data in and out of R, control structures and loops

Week 5, 6: Control Structures / Loops / Vectorized structures and Strings

Week 7, 8: Analytics and Decision Models, MIDTERM

Week 9, 10: String and Data manipulation, exploration

Week 11, 12: Advanced Topics I: Non-linear models, simulation, regression and the like

Week 13, 14: Advanced II: clustering, graphics, visualizations; Project Presentations; FINAL

Text

1. [R Programming for Data Science](#), by Roger D. Peng
2. [Using R for Introductory Statistics](#), by John Verzani, Chapman & Hall/CRC, 2014, ISBN 1466590734
3. Other cases and readings will be provided in Class

Software and Tools

AFS ID and MS Excel.

Honor Code

Please review the UAIP (aka NJIT Policy on Academic Integrity) Fall 2020 Update at Provost web site ([LINK](#)). Note that we will enforce UAIP strictly and seek the highest penalties; also note that the UAIP requires the instructor to notify the Dean of Students office for any violations.