Rutgers Business School

PROBABILITY, aka INTRODUCTION TO BUSINESS RESEARCH METHODS 26:960:575

Place: 1 Washington Park, Room 503, Newark

Time: Mondays 1:00 – 3:50

Instructor: Sergei Schreider

Office: 1 Washington Park, Room 1053A, E-Mail: Sergei.Schreider@gmail.com

Office Hours: 2 hours after class, and by appointment.

Teaching Materials:

Recommended Texts:


Other resources: I will provide additional reading materials during the course, which covers materials which are sufficient for passing this course. However, the text books are helpful and the reading guide will be announced.

Prerequisites: No prerequisites except high school mathematics are necessary to take the course.

Grading:

Mid-term: 25%

Five Handouts (in-class and homework) 5 × 5% = 25%

Four assignments (homework) 4 × 5% = 20%

Final Exam: 30%.
Software: Student will use MINITAB statistical software for solving some of the problems in Handouts and Assignments.

Outline of the Course:

Topic 1: Overview and descriptive statistics

Approach Module 01

Topic 2: Concept of probability, counting techniques, independence of events, conditional probability; includes revision of set theory

Approach Module 02

Topic 3: Discrete random variables and probability distribution; geometric, Bernoulli, binomial and Poison distributions

Approach Module 03

Topic 4: Continuous random variables and probability distributions; normal distribution, exponential distribution;

Approach Module 04

Topic 5: Sampling distributions, distribution of sample means, Central Limit Theorem

Approach Module 05

Topic 6: Concept of statistical inference; point estimation and confidence intervals

Approach Module 06

Topic 7: Statistical inference via hypotheses testing

Approach Module 07

    Topic 7A (non-examinable)  What is beyond large samples: t tests and non-parametric methods Module 10 and Module 15 (first half, only methods for two populations)

Topic 8: Introduction in one variable linear regression

Approach Module 08

    Topic 8A (non-examinable)  Multivariable regression and how to treat nonlinearity Module 9