



Syllabus

Probability for CS students - 52006

Last update 07-08-2017

HU Credits: 4

Responsible Department: statistics

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Offer Kella

Coordinator Email: offer.kella@gmail.com

Coordinator Office Hours: By appointment

Teaching Staff:

Prof Offer Kella
Mr. Royi Jacobovic

Course/Module description:

This course is a continuation of the course "INTRODUCTION TO PROBABILITY AND STAT FOR CS A". In this course we will learn more details about the topics in probability that were introduced in the first course and learn new topics such as study central topics such as the multivariate normal distribution and limit theorems. You will also practice basic terms in statistics.

Course/Module aims:

The goal of the course is to learn central topics in Probability and Statistics and provide the needed background for advanced courses in statistics.

Learning outcomes - On successful completion of this module, students should be able to:

- 1. To quote and apply the definitions that were presented in the course.*
- 2. To restore independently the proofs of the claims that were stated in the course.*
- 3. To describe at least 1 example in the context of any claim.*

Attendance requirements(%):

No attendance requirement

Teaching arrangement and method of instruction: The methodical material of the course will be presented weekly in the form of class lectures.

The lectures will be accompanied by practical lessons and weekly exercises. During the course we will hold several in-class examinations.

Course/Module Content:

1. Marginal and joint distributions: Definitions and basic properties. The moment generating function. The distribution of a transformation.

2. Multivariate distribution and statistics: Estimation, confidence intervals, testing hypotheses.

3. The multi-normal distribution: Definitions and properties, linear transformations, conditional distribution, projections.

4. Introduction to limit theorems: Convergence in distribution and in probability. The Law of Large Numbers and the Central Limit Theorem. The delta method.

Required Reading:

Class notes, if and when given.

Additional Reading Material:

Course/Module evaluation:

End of year written/oral examination 100 %

Presentation 0 %

Participation in Tutorials 0 %

Project work 0 %

Assignments 0 %

Reports 0 %

Research project 0 %

Quizzes 0 %

Other 0 %

Additional information: