The Hebrew University of Jerusalem

Syllabus

Introduction to Communication Networks - 67594

Last update 11-09-2023

HU Credits: 4

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Computer Sciences

Academic year: 0

Semester: 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof. Michael Schapira

Coordinator Email: yossigi@cs.huji.ac.il

Coordinator Office Hours: Coordinate a meeting

Teaching Staff:

Dr. Yossi Gilad,
Mr. Noam caspi

Course/Module description:

67594 DIGITAL NETWORK IN MODERN TIME
Computer networks play a major role in almost every aspect of computing nowadays. In this course, we will learn the basic building blocks of modern computer networks and the theoretical insights behind them. We will focus on Internet architecture and protocols, covering the link layer through the application layer. In addition, we will cover more advanced topics such as performance analysis of network protocols, mobile communication, and security.

Course/Module aims:

A thorough understanding of computer networks and major media protocols in use today.

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

The students will learn how computers communicate, how important communication protocols were designed and what were they critical considerations in their architectures. The students will also learn the layered communication model and what level of abstraction each layer provides the next.

Attendance requirements(%):

0

Teaching arrangement and method of instruction: Frontal lectures (two per week) and practice (two hours per week)

Course/Module Content:

Design principles of computer networks, The OSI layer model, Link layer and its protocol, reliable data transfer, switches and routers, forwarding and routing, TCP and congestion control, application layer protocols.

Required Reading:

NA

Additional Reading Material:

James F. Kurose, Keith W. Ross, Computer Networking, A top-down approach. Fifth Edition

D. Bertsekas and R. Gallager, Data Networks, Prentice Hall, 1992

Grading Scheme:

Written / Oral / Practical Exam 70 %

Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 30 %

Additional information:

Requirements for passing the course:

1. Submission of all home assignments and achieving an average grade greater than 54

2. Exam grade: greater than 54

3. Final grade: at least 60