האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Image Processing - 67829

Last update 08-09-2021

HU Credits: 4

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Computer Sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Prof Shmuel Peleg

Coordinator Email: peleg@mail.huji.ac.il

Coordinator Office Hours: Coordinate in advance

Teaching Staff:

Prof Shmuel Peleg,
Ms. Avital Shafran

Course/Module description:
Introduction to digital image processing: description of the imaging process, and learning basic concepts and operations.

Course/Module aims:
To understand the capabilities of digital image processing, and enable students to develop and write basic software.

Learning outcomes - On successful completion of this module, students should be able to:
Students will be able to read image processing textbooks and papers, and implement basic algorithms. Also, design algorithms to solve many image processing problems.

Attendance requirements(%):
50
0

Teaching arrangement and method of instruction: Frontal Lectures. At least 50% attendance recommended.

Course/Module Content:
Image capture and digitization; basics of imaging geometry; the Histogram; image enhancement and restoration; Convolutions and Fourier Transform; Intro to Sounds; Geometrical transformations and warping; Multiresolution pyramids; Image compression; Image alignment; panoramic stitching; Robust methods; morphology of binary images; neural network methods for image enhancement

Required Reading:
NA

Additional Reading Material:
http://homepages.inf.ed.ac.uk/rbf/CVonline/

Course/Module evaluation:

End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 30 %
Reports 0 %
Research project 0 %
Quizzes 70 %
Other 0 %

Additional information:

Assignments include substantial programming of image processing tasks. Programming will be in Python and its numerical libraries.

3 short quizzes will be given during the course instead of a final exam. MOED BET exam will not be given.