Course program and reading list

Semester 1 Year 2022

**School:** Efi Arazi School of Computer Science M.Sc.

**Computer Vision**

**Lecturer:**

Prof. Yael Moses  yael@idc.ac.il

**Teaching Assistant:**

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**Course No.:** 217  **Course Type:** Elective  **Weekly Hours:** 3  **Credit:** 3

**Course Requirements:**  **Group Code:** 221021701  **Language:** Hebrew

**Prerequisites**

**Prerequisite:**

52 - Calculus I
53 - Calculus II
54 - Linear Algebra I
55 - Linear Algebra II
56 - Discrete Mathematics
59 - Data Structures
69 - Logic And Set Theory
77 - Algorithms
417 - Introduction To Computer Science
Course Description

The course will cover the foundations of machine learning in computer vision, including the challenges and solutions to solving computer vision tasks. We will focus on the theoretical and practical aspects of computer vision, including basic methods for solving classic computer vision tasks, computer vision applications, and basic python.

Course Goals

The student will learn:

- Basic understanding of the challenges in solving computer vision tasks
- Basic methods for solving classic computer vision tasks
- Computer vision applications
- Theoretical as well as practical aspects of computer vision
- Basic python

Grading

50% of the grade will be based on the final exam, and 50% will be based on the cumulative grade for all assignments and participation.

Learning Outcomes

The student will learn:

- Basic understanding of the challenges in solving computer vision tasks
- Basic methods for solving classic computer vision tasks
- Computer vision applications
- Theoretical as well as practical aspects of computer vision
- Basic python

Lecturer Office Hours

TBA
The course does not follow a text book. However, the following books cover most of the material that will be studied in this course:

- Computer Vision: A Modern Approach, by Forsyth D.A. and Ponce, J.
- Multiple View Geometry in Computer Vision, by Zisserman, A. and Hartley R
- Computer Vision: Algorithms and Applications, by Richard Szeliski,

In addition, journal and conference papers will be listed during the course.