# Course program and reading list

Semester 1 Year 2024

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

## Linear Algebra I

**Lecturer:**

Dr. Ran Cohen    ran.cohen01@runi.ac.il

**Tutors:**

Ms. Adva Madvil    adva.madvil@post.runi.ac.il

Mr. Omer Shechter    omer.shechter@post.runi.ac.il

Mr. Ofri Tamir    ofri.tamir@post.runi.ac.il

**Teaching Assistant:**

Ms. Shiran Aziz    shiran.aziz@post.runi.ac.il

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| Course No.: | Course Type : | Weekly Hours : | Credit: |
|---|---|---|---|
| 54 | Lecture | 6 | 6 |

| Course Requirements : | Group Code : | Language: |
|---|---|---|
| Final Paper | 241005401 | Hebrew |

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## Course Description

Linear Algebra is a fundamental course for computer scientists that consists of the underlying mathematical ground for Computer Science, among other disciplines. Topics include:

- Fields

- Linear equations
- Matrices
- Vector spaces
- Subspaces
- Span, linear independence
- Linear transformations, kernel and image
- isomorphisms
- Determinants

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## Course Goals

After completing this course, students will have developed a clear understanding of the fundamental concepts of vector spaces and linear maps, and a range of skills allowing them to work effectively with these concepts.

Students will also practice abstract mathematical thinking and will learn how to define various mathematical properties and rigorously prove claims.

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## Grading

The grade of this course consists of 85% of the final exam score and 15% of the home assignments grade.

The final exam is 3-hour long, and the exam questions are challenging.

Each week students will be given a set of problems which will be submitted individually and graded. These sets of problems can often be challenging and require effort.

The assignments' grade is an average of the top 7 grades of each student (out of 9). . A student that will not submit at least 7 (out of 9) assignments will not pass the course.

An assignment with a grade less then or equal to 35 will not be assigned as submitted.

To receive a passing grade in the course one must obtain a grade of at least 60 in the final exam, and also receive a final grade of at least 60.

The final grade in this course is given by the following formula:

Final_grade = 0.85 * final_exam + 0.15 * Exercise_grade.

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## Lecturer Office Hours

See course website

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## Tutor Office Hours

See course website

## Teaching Assistant

See course website

## Reading List

See course website