האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Elementary analysis 2 - 80116

Last update 19-03-2025

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Mathematics

Academic year: 0

Semester: 1st and/or 2nd Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Miriam Bank

Coordinator Email: miriam.bank@mail.huji.ac.il noa.nitzan@mail.huji.ac.il

Coordinator Office Hours:

Teaching Staff:

Mr. Daniel Ofner,
Dr. Miriam Bank

Course/Module description:
Elementary course in analytic geometry and functions of several variables

Course/Module aims:
To know basic notions in Euclidean and analytic geometry, geometry of paths, calculus of functions of several variable, computation of length/area/volume

Learning outcomes - On successful completion of this module, students should be able to:
On completion of the course students will know basic definitions and theorems of the topics studied in the course

Attendance requirements(%):
No

Teaching arrangement and method of instruction: Lectures and home assignments

Course/Module Content:
Euclidean geometry
Paths and their derivatives
curvature and torsion
quadratic and parametrized surfaces
functions of 2 variables
differential and tangent plane
Taylor formula
classification of critical points
double and triple integrals
computation of length, area, volume.

Required Reading:
None

Additional Reading Material:
ספרים:

1. רות לורנס-נאימרק. מתמטיקה שימושית (1). תקצירי הרצאות (פרקים 1, 2, 9, 10, 11, 12)
2. רות לורנס-נאימרק. מתמטיקה שימושית (1). תרגילים ופתרונות (תרגילים על פרקים 1, 2, 9, 10, 11, 12)
3. Thomas/Finney, Calculus
Chapters : 9 (mainly sub-chapter 9.6), 10, 11,12,13

Grading Scheme:
Written Exam % 85
Submission assignments during the semester: Exercises / Essays / Audits / Reports / Forum / Simulation / others 15 %

Additional information:
The course 80132 must be studied before ot concurrently.
The course is required in the 2nd semester for mathematics students (single major) except those who began their studies before the 2021/22 academic year, and elective for or mathematics in joint degrees with other departments except math-physics.
Students taking 80142 may request exemption from the requirement to take this course (80116), subject to approval by the Bsc advisor.
To receive credit, the course must be studied in the first year.
No credit will be given if the student has completed one of the courses 80112,80114.
There may be small changes between courses depending on the semester in which the course is taught.