

# The Department of Mathematics

2023–24–A term

**Course Name** Calculus C

**Course Number** 201.1.9221

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/fall2024/courses/calculus-c>

**Office Hours** <https://www.math.bgu.ac.il/en/teaching/hours>

## Abstract

## Requirements and grading<sup>1</sup>

## Course topics

1. Real numbers and real line, elementary functions and graphs, some functions arising in economics. The limit of a function, calculating limits using the limit laws, continuity, the number  $e$ .
2. The derivative of a function, differential rules, higher derivatives, L'Hospital rules.
3. Extreme values of functions, monotonic functions, point of inflection, concavity, curve sketching, applications to economics.
4. Indefinite integrals, techniques of integration, definite and improper integrals, areas between curves, applications to economics.
5. Functions of several variables, economics examples, partial derivatives, linearization, the chain rule, implicit and homogeneous functions, maximum and minimum, Lagrange multipliers.
6. Introduction to linear algebra, matrices, linear systems.

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<sup>1</sup>Information may change during the first two weeks of the term. Please consult the webpage for updates