



## The Department of Mathematics

2022–23–B term

**Course Name** Calculus C

**Course Number** 201.1.9221

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/spring2023/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