אוניברסיטת
בן-גוריון בנגב

The Department of Mathematics

2020–21–A term

Course Name Infinitesimal Calculus 1

Course Number 201.1.1011

Course web page
`https://www.math.bgu.ac.il//en/teaching/fall2021/courses/infinitesimal-calculus-`

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Office Hours `https://www.math.bgu.ac.il/en/teaching/hours`

Abstract

Requirements and grading[1]

Course topics

Axioms of the reals. Sequences: limits, monotone sequences, the Bolzano-Weierstrass theorem, Cauchy's criterion, the number e. Limits of functions. Continuous functions: equivalent definitions of continuity, properties of the elementary functions, the exponential function, the Intermediate Value Theorem, existence of extrema in closed and bounded sets, unfiorm continuity and Cantor's theorem. Introduction to derivatives: the definition of the derivative and dffierentiation rules, the derivative of an inverse function, derivatives of elementary functions, Fermat's theorem, Rolle's theorem and Lagrange's Mean Value Theorem.

[1] Information may change during the first two weeks of the term. Please consult the webpage for updates