אוניברסיטת
בן-גוריון בנגב

The Department of Mathematics

2017–18–A term

Course Name Differential Calculus for EE

Course Number 201.1.9671

Course web page
`https://www.math.bgu.ac.il//en/teaching/fall2017/courses/differential-calculus-f`

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

Abstract

Requirements and grading[1]

Course topics

1. Real numbers. Supremum and Infimum of a set. 2. Convergent sequences, subsequences, Cauchy sequences. The Bolzano-Weierstrass theorem. Limit superior and limit inferior. 3. Series. Partial sums, convergent and divergent series, Cauchy criterion. Series of non-negative terms. The root and the ratio tests. Conditional and absolute convergence. The Leibnitz test for series with alternating signs. Rearrangements of series (without proof) 4. The limit of a function. Continuous functions. Continuity of the elementary functions. Properties of functions continuous on a closed interval: boundedness and attainment of extrema. Uniform continuity, Cantor?s theorem. 5. The derivative of a function. Mean value theorems. Derivatives of higher order. L'Hospital's rule. Taylor's theorem. Lagrange remainder formula.

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