

The Department of Mathematics

2021–22–B term

Course Name Fundamentals of Analysis for EE - part I

Course Number 201.2.5331

Course web page

<https://math.bgu.ac.il/en/teaching/spring2022/courses/fundamentals-of-analysis->

Lecturer Prof. Arkady Leiderman, <arkady@bgu.ac.il>, Office 308

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

Abstract

Requirements and grading¹

Course topics

Metric spaces: closed sets, open sets, Cauchy sequences, completeness, compactness, Theorem of Heine–Borel, continuity and uniform continuity of functions, uniform convergence of sequences of functions.

Measure theory: algebras, measures and outer measures, measurable sets, discrete measure spaces, Lebesgue measure on the real line, measurable functions, Lebesgue integral, dominated convergence theorem, L_p -spaces as complete normed spaces. Time-permitting: signed measures and absolute continuity of measures and the Radon-Nykodim theorem.

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