Lecturer of the course **Fundamentals of Analysis for EE**, 201.2.5331-
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Fundamentals of Analysis for EE, 201.2.5331

Link to the site of the course
https://www.math.bgu.ac.il/~arkady/Fundamentals_Analysis_EE/Fundamentals_Analysis_EE_English.html

Syllabus:

1) Countable and uncountable sets: elements of Set Theory.
2) Metric spaces. Examples of Metric spaces. Closed sets, open sets, completeness, compactness. Compact subsets in Euclidean spaces R^n. Continuity and uniform continuity of real functions.
3) Measure theory. σ-algebras, axioms of measure, measurable sets, examples of measure spaces. Lebesgue measure on the real line. Measurable functions. Lebesgue integral dominated convergence theorem. Comparison between Lebesgue and Riemann integrable functions.

Recommended literature:

1) H.L. Royden, "Real Analysis", Prentice –Hall, 1988
2) A. N. Kolmogorov and S.V. Fomin, "Introductory Real Analysis", Dover Publications, 1970.
3) Terence Tao, "Analysis I"; "Analysis II"; "An introduction to measure theory".

1) There will be obligatory 4 homeworks, each homework consists of 15 questions. The grade of each homework is 100 points.
Presented solutions should be original, not copied from the Internet sources.
Solutions should be done by pairs.
2) Exam at the end.

Final grade of the course is $\mathbf{X = \frac{3}{4} A + \frac{1}{4} M,}$

where **A** – grade of homeworks**, M -** grade of the exam.