The Department of Mathematics
2023–24–A term

Course Name  Fourier analysis for Electrical Engineering
Course Number  201.19901
Course web page  [https://www.math.bgu.ac.il//en/teaching/fall2024/courses/fourier-analysis-for-electrical-engineering](https://www.math.bgu.ac.il//en/teaching/fall2024/courses/fourier-analysis-for-electrical-engineering)
Office Hours  [https://www.math.bgu.ac.il/en/teaching/hours](https://www.math.bgu.ac.il/en/teaching/hours)

Abstract

Requirements and grading

Course topics


.3 Pointwise convergence: Dini’s criterion. Convergence at jump discontinuities and Gibbs phenomenon.

.4 $L^2$-theory: orthonormal sequences and bases. Best approximations, Bessel’s inequality, Parseval’s identity and convergence in $L^2$.

.5 Applications to partial differential equations: the heat and wave equations on an interval with constant boundary conditions, the Dirichlet problem for the Laplace equation on the disk, the Poisson kernel.

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

- **Korner, Fourier analysis**
- **Stein and Shakarchi, Fourier analysis**