אוניברסיטת
בן-גוריון בנגב

The Department of Mathematics

2018–19–B term

Course Name Partial Dffierential Equations For Biotechnology

Course Number 201.1.9591

Course web page
`https://www.math.bgu.ac.il//en/teaching/spring2019/courses/partial-differential-equations-for-biotechnology`

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

Abstract

Requirements and grading[1]

Course topics

.1 Classfiication of linear Partial Dffierential Equations of order ,2 canonical form.

.2 Fourier series (definition, Fourier theorem, odd and even periodic extensions, derivative, unfiorm convergence).

.3 Examples: Heat equation (Dirichlet's and Newman's problems), Wave equation (mixed type problem), Potential equation on a rectangle.

.4 Superposition of solutions, non-homogeneous equation.

.5 Infinite and semi-infinite Heat equation: Fourier integral, Green's function. Duhamel's principle.

.6 Infinite and semi-infinite Wave equation: D'Alembert's solution.

.7 Potential equation on the disc: Poisson's formula and solution as series.

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