

## The Department of Mathematics

2022–23–A term

**Course Name** Calculus 3 for Engineering

**Course Number** 201.1.9771

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/fall2023/courses/calculus-3-for-engineer>

**Lecturer** Dr. Irena Lerman, <lerman@post.bgu.ac.il>, Office מיוס 110

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

### Abstract

### Requirements and grading<sup>1</sup>

### Course topics

- .1 Series of numbers, both positive and general. Absolute and conditional convergence. Root and Ratio tests. Leibniz Alternating series test.
- .2 Power Series.
- .3 First order equations: separable equations, exact equations, linear equations, Bernoulli equations. Existence and uniqueness.
- .4 Second order equations. Reduction of order. Linear homogeneous equations, fundamental solutions and Wronskian. Inhomogeneous equations, variation of parameters. Equations with constant coefficients and the method of undetermined coefficients. Linear equations of higher order. Euler equations.
- .5 Systems of differential equations.

---

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