

The Department of Mathematics

2024–25–A term

Course Name Introduction to Commutative Algebra

Course Number 201.1.7071

Course web page

<https://math.bgu.ac.il/en/teaching/fall2025/courses/intro-comm-algebra>

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

Abstract

Requirements and grading¹

Course topics

- .1 Rings and ideals (revisited and expanded).
- .2 Modules, exact sequences, tensor products.
- .3 Noetherian rings and modules over them.
- .4 Hilbert's basis theorem.
- .5 Finitely generated modules over PID.
- .6 Hilbert's Nullstellensatz.
- .7 Affine varieties.
- .8 Prime ideals and localization. Primary decomposition.
- .9 Discrete valuation rings.

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