

The Department of Mathematics

2015–16–B term

Course Name Derived categories II

Course Number 201.2.0362

Course web page

https://www.math.bgu.ac.il/~amyekut/teaching/2015-16/der-cats-II/course_page.html

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

Abstract

Requirements and grading¹

1. Commutative algebra via derived categories (regular and CM rings, Grothendieck's Local Duality, MGM Equivalence, rigid dualizing complexes).
2. Geometric derived categories (of sheaves on spaces). Direct and inverse image functors, Grothendieck Duality, Poincaré-Verdier Duality, perverse sheaves).
3. Derived categories associated to noncommutative rings (dualizing complexes, tilting complexes and derived Morita theory).
4. Derived categories in modern algebraic geometry and modern string theory (a survey).

Course topics

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



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4. Derived categories in modern algebraic geometry and modern string theory (a survey).