The Department of Mathematics  
2019–20–B term

Course Name Lie Groups

Course Number 201.2.4141

Course web page  
https://www.math.bgu.ac.il/en/teaching/spring2020/courses/lie-groups

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

Requirements and grading

Course topics

1. Review of differentiable manifolds, definition of a Lie group. Quotients in the category of Lie groups, homogeneous manifolds, haar measure, connected components.

2. Algebraic groups, matrix groups, the classical groups.

3. Lie algebras and connection to Lie groups.


5. Cartan-Killing form.

6. Representation of a Lie algebra over the complex numbers.

7. Root and weights, root systems, Dynkin diagrams, classification of complex semisimple Lie algebras.

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