MATH-620(1)

Topics in the theory of reductive algebraic groups, Lie algebras, and representation theory I

Testerman Donna

Cursus	Sem.	Type
Mathematics		Obl.

Language of teaching	English
Credits	3
Session	
Exam	Oral presentation
Workload	90h
Hours	**56**
Courses	28
Exercises	14
TP	14
Number of positions	

Frequency

Every year

Remark

Every year. Next time: Fall 2019

Summary

The topics addressed in this course are the structure theory of eductive algebraic groups, their associated Lie algebras, the related finite groups of Lie type, and the representation theory of all of these objects.

Content

We start with the basic structure theory of reductive algebraic groups and proceed to study:

their representations, the subgroup structure, conjugacy classes, structural results on their Lie algebras,
the related finite groups of Lie type, generation problems.
The working group is based on advanced textbooks and journal articles.

Keywords

semisimple, reductive, algebraic groups, Lie algebras

Learning Prerequisites

Required courses

Advanced abstract algebra and group theory, representation theory, preferably some knowledge of Lie theory.