

Course plan

Topics in Representation Theory I

Lecturer

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Literature

- M. Auslander, I. Reiten, and S. O. Smalø. *Representation theory of Artin algebras*, Cambridge Studies in Advanced Mathematics 36. Cambridge University Press, 1997.
- I. Assem, D. Simson, and A. Skowronski. *Elements of the representation theory of associative algebras: 1*, London Mathematical Society Student Texts 65. Cambridge University Press, 2006.

Schedule

Lecture	Date	Topic
1	April 17	Introduction
2	April 24	Semi-simple algebras and the Jacobson radical
3	May 1	Quiver representations
4	May 15	Structure of modules
5	May 22	Morita theory
6	May 29	The quiver of a finite dimensional algebra
7	June 5	Almost split sequences
8	June 12	Irreducible morphisms
9	June 19	Dual and transpose
10	June 26	Some homological algebra
11	July 3	The Auslander-Reiten formulas
12	July 10	The existence of almost split sequences
13	July 17	The Auslander-Reiten quiver
14	July 24	Calculating Auslander-Reiten quivers
15	July 31	Hereditary algebras

Examination

There will be four sets of problems to be handed in, each worth 25 points. The total amount of points obtained out of 100 will determine the final grade according to the following scale: S: 90-100, A: 80-89, B: 70-79, C: 60-69, F:0-59.