



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG

CHAMPP

CENTER IN HAMBURG FOR  
ASTRO-, MATHEMATICAL AND  
PARTICLE PHYSICS

LECTURE COURSE IN THE QUANTUM UNIVERSE RESEARCH SCHOOL

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Summer Term 2023

# Advanced Algebra

Christoph Schweigert

## Course Description:

This course covers a selection of algebraic concepts and techniques that are used in many areas of mathematics. The starting point is the theory of rings and modules, from which we will proceed to topics in representation theory and the basics of homological algebra.

## Prerequisites:

Familiarity with basic notions from algebra (groups, rings) and a solid foundation in linear algebra. Previous (or parallel) exposure to category theory or representation theory (e.g. of Lie algebras) may be beneficial, but is not essential.

## Date and Place:

Tue, 10:15 – 11:45, H3, Geomatikum  
Thu 10:15 – 11:45, H6, Geomatikum

## Starting on:

4 April, 2023

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