## Module title
Algebra and dynamics of Quantum Systems

## Abbreviation
10-M=MP2-161-m01

## Module coordinator
Dean of Studies Mathematik (Mathematics)

## Module offered by
Institute of Mathematics

## ECTS
10

## Method of grading
numerical grade

## Only after succ. compl. of module(s)
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## Duration
1 semester

## Module level
graduate

## Other prerequisites
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## Contents
Modern algebraic methods for dynamics of quantum systems, e. g. operator algebras with applications in algebraic quantum field theory, spectral theory, symmetries and representation theory.

## Intended learning outcomes
The student gains insight into modern methods in mathematics, which are applied in quantum physics. He/She masters advanced techniques in this field and is able to apply them to complex problems.

## Courses
(type, number of weekly contact hours, language — if other than German)

- V (4) + Ü (2)

Module taught in: German and/or English

## Method of assessment
(type, scope, language — if other than German, examination offered — if not every semester, information on whether module is creditable for bonus)

- a) written examination (approx. 90 to 120 minutes, usually chosen) or
- b) oral examination of one candidate each (approx. 20 minutes) or
- c) oral examination in groups (groups of 2, 15 minutes per candidate)

Language of assessment: German or English

## Allocation of places
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## Additional information
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## Referred to in LPO I
(examination regulations for teaching-degree programmes)

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## Module appears in
- Master's degree (1 major) Mathematics (2016)
- Master's degree (1 major) Mathematical Physics (2016)
- Master's teaching degree Gymnasium MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
- Supplementary course MINT Teacher Education PLUS, Elite Network Bavaria (ENB) (2016)
- Master's degree (1 major) Mathematics (2019)