

Module title		Abbreviation
Study Group Mathematical Physics		11-MP-AG-122-m01
Module coordinator		Module offered by
chairperson of examination committee Mathematische Physik (Mathematical Physics)		Faculty of Physics and Astronomy
ECTS	Method of grading	Only after succ. compl. of module(s)
10	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	graduate	--
Contents		
Introduction to current questions of Mathematical Physics as a preparation for a Master's thesis in this research area. Summary of the required fundamental topics in a seminar presentation.		
Intended learning outcomes		
The students have advanced knowledge of the subdiscipline of Mathematical Physics and have gained insights into current research topics. They are able to summarise their knowledge in an oral presentation.		
Courses (type, number of weekly contact hours, language — if other than German)		
<p>Mathematics Courses:</p> <p>Arbeitsgemeinschaft Algebra (Study Group Algebra): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, once a year</p> <p>Arbeitsgemeinschaft Diskrete Mathematik (Study Group Discrete Mathematics): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Dynamische Systeme und Regelung (Study Group Dynamical Systems and Control): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Funktionentheorie (Study Group Complex Analysis): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Geometrie und Topologie (Study Group Geometry and Topology): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Mathematik in den Naturwissenschaften (Study Group Mathematics in the Sciences): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Maß und Integral (Study Group Measure and Integral): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Numerische Mathematik und Angewandte Analysis (Study Group Numerical Mathematics and Applied Analysis): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Robotik, Optimierung und Kontrolltheorie (Study Group Robotics, Optimisation and Control Theory): V (2 weekly contact hours) + S (2 weekly contact hours), German or English, available as necessary</p> <p>Arbeitsgemeinschaft Zahlentheorie (Study Group Number Theory): S (2 weekly contact hours), German or English, every two years</p> <p>Physics courses:</p> <p>Arbeitsgemeinschaft Hopf-Algebren (Study Group Hopf Algebras): S (no set number of weekly contact hours, mentoring during study group sessions), German or English</p> <p>Arbeitsgemeinschaft Konforme Feldtheorie (Study Group Conformal Field Theory): S (no set number of weekly contact hours, mentoring during study group sessions), German or English</p> <p>Arbeitsgemeinschaft Moderne Differentialgeometrie (Study Group Modern Differential Geometry): S (no set number of weekly contact hours, mentoring during study group sessions), German or English</p> <p>Arbeitsgemeinschaft Mathematische Physik (Study Group Mathematical Physics): S (no set number of weekly contact hours, mentoring during study group sessions), German or English</p> <p>Arbeitsgemeinschaft Operatoralgebren und Darstellungstheorie (Study Group Operator Algebras and Representation Theory): S (no set number of weekly contact hours, mentoring during study group sessions), German or English</p>		

Arbeitsgemeinschaft Quantenfeldtheorie (Study Group Quantum Field Theory): S (no set number of weekly contact hours, mentoring during study group sessions), German or English
 Arbeitsgemeinschaft Riemannsche Geometrie (Study Group Riemannian Geometry): S (no set number of weekly contact hours, mentoring during study group sessions), German or English
 Arbeitsgemeinschaft Symplektische und Poisson-Geometrie (Study Group Symplectic and Poisson Geometry): S (no set number of weekly contact hours, mentoring during study group sessions), German or English
 Arbeitsgemeinschaft Statistische Mechanik (Study Group Statistical Mechanics): S (no set number of weekly contact hours, mentoring during study group sessions), German 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)

Mathematics Courses:

This module will be assessed by one or two of the following methods (to be selected by the lecturer at the beginning of the course):

- Topics covered in one lecture with seminar that is assigned to this module: presentation (60 to 180 minutes), written elaboration (approx. 5 to 30 pages), written examination (approx. 60 to 120 minutes), oral examination of one candidate each (approx. 15 to 20 minutes) or oral examination in groups of 2 candidates (approx. 20 to 30 minutes).

Language of assessment: German or English.

Assessment will be offered in the semester in which the respective course is offered and in the subsequent semester; the courses will be available as necessary or every four semesters.

Registration for the seminar must be made via SB@home at the beginning of the course or as announced by the lecturer in accordance with the specified registration deadlines. The lecturer may require that participants have previous knowledge and/or skills in certain areas and/or meet certain prerequisites (e. g. preparation of a written outline of their talk) to qualify for admission to assessment. Students will be informed about the details at the beginning of the course. Registration for the seminar will be considered a declaration of will to seek admission to assessment. If students have obtained the qualification for admission to assessment, the lecturer will put their registration for assessment into effect at the end of the course. If the lecturer selects two methods of assessment, the grades achieved in the two assessments will be equally weighted in the calculation of the module grade.

Physics courses:

This module will be assessed by a talk on the topics covered in the seminar and a discussion (approx. 30 to 45 minutes total).

Language of assessment German or English

Students must register for assessment online (details to be announced).

To pass this module, students must pass the assessment for the course they attended.

Allocation of places

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Additional information

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Workload

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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) Mathematical Physics (2012)