

Module title		Abbreviation
Quantum Mechanics - Exercises		11-T-QA-152-m01
Module coordinator		Module offered by
Managing Director of the Institute of Theoretical Physics and Astrophysics		Faculty of Physics and Astronomy
ECTS	Method of grading	Only after succ. compl. of module(s)
5	numerical grade	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	Admission prerequisite to assessment: completion of exercises (approx. 13 exercise sheets per semester). Students who successfully completed approx. 50% of exercises will qualify for admission to assessment. The lecturer will inform students about the respective details at the beginning of the semester.
Contents		
Exercises in quantum mechanics according to the content of 11 T-SEV. Among others Wave function and Schrödinger equation (SG), formalisation of QM, eigenvalue equations, postulates of QM, one-dimensional problems, spin-1/2 systems, angular momentum, central potential, hydrogen atom, movement in the electromagnetic field, addition of angular momenta, approximation methods, atoms with several electrons, etc.		
Intended learning outcomes		
The students are familiar with the mathematical methods of quantum mechanics and are able to independently apply them to the description and solution of problems of quantum theory and to interpret the results in a physical manner.		
Courses (type, number of weekly contact hours, language — if other than German)		
Ü (2) Module taught in: Ü: 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)		
written examination (approx. 120 minutes) Language of assessment: German and/or English		
Allocation of places		
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Additional information		
Registration: If a student registers for the exercises and obtains the qualification for admission to assessment, this will be considered a declaration of will to seek admission to assessment pursuant to Section 20 Subsection 3 Sentence 4 ASPO (general academic and examination regulations). If the module coordinators subsequently find that the student has obtained the qualification for admission to assessment, they will put the student's registration for assessment into effect. Only those students that meet the respective prerequisites can successfully register for an assessment. Students who did not register for an assessment or whose registration for an assessment was not put into effect will not be admitted to the respective assessment. If a student takes an assessment to which he/she has not been admitted, the grade achieved in this assessment will not be considered.		
Workload		
150 h		
Teaching cycle		
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Referred to in LPO I (examination regulations for teaching-degree programmes)		
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Module appears in		

Bachelor's degree (1 major) Nanostructure Technology (2015)
Bachelor's degree (1 major) Nanostructure Technology (2020)
Bachelor's degree (1 major) Quantum Technology (2021)
exchange program Physics (2023)