

Module title		Abbreviation
MINT Preparatory Course Mathematical Methods of Physics		11-P-VKM-202-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)
3	(not) successfully completed	--
Duration	Module level	Other prerequisites
1 semester	undergraduate	--
Contents		
Mathematical basics and elementary calculus refreshing and extending knowledge from school, especially as an introduction and preparation for the modules of experimental and theoretical physics. 1. Basic geometry and algebra, 2. differential calculus and series, 3. integral calculus, 4. vectors – directional quantities, 5. coordinate systems, 6. complex numbers		
Intended learning outcomes		
Students are in command of knowledge of basic mathematics and possess skills in elementary calculus as required for the successful start into the studies of experimental and theoretical physics.		
Courses (type, number of weekly contact hours, language — if other than German)		
V (1) + Ü (2) Module taught in: 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)		
a) exercises (successful completion of approx. 50% of approx. 6 exercise sheets) or b) talk (approx. 15 minutes) Assessment offered: Once a year, winter semester		
Allocation of places		
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Additional information		
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Workload		
90 h		
Teaching cycle		
Teaching cycle: every year, winter semester		
Referred to in LPO I (examination regulations for teaching-degree programmes)		
§ 22 II Nr. 1 h) § 22 II Nr. 2 f) § 22 II Nr. 3 f)		
Module appears in		
Bachelor' degree (1 major) Physics (2020) Bachelor' degree (1 major) Nanostructure Technology (2020) Bachelor' degree (1 major) Mathematical Physics (2020) Bachelor's degree (1 major, 1 minor) Physics (Minor, 2020) First state examination for the teaching degree Grundschule Didactics in Physics (Primary School) (2020) First state examination for the teaching degree Grundschule Physics (2020) First state examination for the teaching degree Gymnasium Physics (2020) First state examination for the teaching degree Realschule Physics (2020) First state examination for the teaching degree Sonderpädagogik Didactics in Physics (Middle School) (2020)		

First state examination for the teaching degree Mittelschule Didactics in Physics (Middle School) (2020)
First state examination for the teaching degree Mittelschule Physics (2020)
Bachelor' degree (1 major) Quantum Technology (2021)