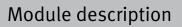


Module description

Module title					Abbreviation
Physics of Complex Systems					11-PKS-Int-201-m01
Module coordinator				Module offered by	
Managing Director of the Institute of Theoretical Physics Faculty of Physics and Astro and Astrophysics					nd Astronomy
ECTS Method of grading		Only after succ. compl. of module(s)			
6 numerical grade					
Duration		Module level	Other prerequisites		
1 semester		graduate			
Contents					
 Theory of critical phenomena in thermal equilibriumt Introduction into the physics out of equilibriumt Entropy production and fluctuationst Phase transitions away from equilibriumt Universalityt Spin glasses Theory of neural networks Intended learning outcomes In-depth knowledge of concepts and methods essential for a thorough understanding of collective phenomena in complex many-body systems. Thorough understanding of the concepts of entropy, entropy production and universality. Ability to appreciate the central importance of symmetries. Ability to perform research tasks in the					
field of complex systems.					
Courses (type, number of weekly contact hours, language — if other than German)					
V (2) + R (2) Module taught in: 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) or b) oral examination of one candidate each (approx. 30 mi- nutes) or c) oral examination in groups (groups of 2, approx. 30 minutes per candidate) or d) project report (ap- prox. 8 to 10 pages) or e) presentation/talk (approx. 30 minutes). If a written examination was chosen as method of assessment, this may be changed and assessment may in- stead take the form of an oral examination of one candidate each or an oral examination in groups. If the method of assessment is changed, the lecturer must inform students about this by four weeks prior to the original exami- nation date at the latest. Language of assessment: English Assessment offered: In the semester in which the course is offered and in the subsequent semester					
Allocation of places					
Additional information					
Workload					
180 h					
Teaching cycle					
Referred to in LPO I (examination regulations for teaching-degree programmes)					
 Module appears in					
Module appears in					

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Julius-Maximilians-UNIVERSITÄT WÜRZBURG



Master's degree (1 major) Physics International (2020) exchange program Physics (2023) Master's degree (1 major) Physics International (2024)

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