

Module title		Abbreviation
Symmetry, chemical bonding and light		o8-PC-SBL-152-mo1
Module coordinator		Module offered by
lecturer of lecture "Symmetrie, chemische Bindung and Licht"		Institute of Physical and Theoretical Chemistry
ECTS	Method of grading	Only after succ. compl. of module(s)
9	numerical grade	--
Duration	Module level	Other prerequisites
2 semester	undergraduate	--
Contents		
<p>This module provides an introduction to the symmetry of molecules. It focuses on group theory, symmetry operations, point groups, character tables and selection rules. The module deals with the chemical bond based on the qualitative MO theory and gives an introduction to the fundamentals of computational chemistry. It also gives students the opportunity to analyse the interactions between symmetry, chemical bonding and light in detail.</p>		
Intended learning outcomes		
<p>Students are able to analyse the symmetry of molecules. They are able to draw conclusions about the spectroscopic properties of a particular molecule from the symmetry of that molecule.</p>		
Courses (type, number of weekly contact hours, language – if other than German)		
V (3) + Ü (2) + V (2) + Ü (2)		
Method of assessment (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
<p>a) written examination (approx. 90 to 180 minutes) or b) oral examination of one candidate each (20 to 30 minutes) or c) oral examination in groups of up to 3 candidates (approx. 15 minutes per candidate) or d) log (approx. 20 pages) or e) presentation (approx. 30 minutes) Language of assessment: German and/or English</p>		
Allocation of places		
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Additional information		
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Workload		
270 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' degree (1 major) Biochemistry (2015) Bachelor' degree (1 major) Chemistry (2015) Bachelor' degree (1 major) Mathematics (2015) Bachelor' degree (1 major) Computational Mathematics (2015) Bachelor' degree (1 major) Biochemistry (2017) Bachelor' degree (1 major) Chemistry (2017) Bachelor' degree (1 major) Biochemistry (2022) Bachelor' degree (1 major) Mathematics (2023)		