

<b>Module title</b>		<b>Abbreviation</b>
Physical Chemistry 1		o8-PC1-092-m01
<b>Module coordinator</b>		<b>Module offered by</b>
lecturer of lecture "Grundlagen der Quantenmechanik and Spektroskopie" (Principles of Quantum Mechanics and Spectroscopy)		Institute of Physical and Theoretical Chemistry
<b>ECTS</b>	<b>Method of grading</b>	<b>Only after succ. compl. of module(s)</b>
8	numerical grade	--
<b>Duration</b>	<b>Module level</b>	<b>Other prerequisites</b>
1 semester	undergraduate	Admission prerequisite to assessment: successful completion of exercises in the respective classes as specified at the beginning of the course (usually 70% of exercises to be successfully completed) as well as regular attendance of exercises (usually a maximum of 2 incidents of unexcused absence).
<b>Contents</b>		
German contents available but not translated yet.		
<p>Das Modul führt in die elementaren Grundlagen der Quantenmechanik ein. Anhand der Modelle Teilchen im Kasten, Harmonischer Oszillator und Starrer Rotator werden Moleküle analysiert. Spektroskopische Schwerpunkte sind die Schwingungsspektroskopie, Drehimpulsquantelung, Mikrowellenspektroskopie und UV/VIS-Spektroskopie. Als mathematische Grundlagen für die aufgeführten Themen werden im Modul zudem im Schwerpunkt lineare Operatoren, Eigenwertprobleme, Matrixdarstellung, Differentialgleichungen, Fouriertransformation und orthogonale Sätze von Funktionen behandelt.</p>		
<b>Intended learning outcomes</b>		
German intended learning outcomes available but not translated yet.		
<p>Die Studierenden sind in der Lage, grundlegende Modelle der Quantenmechanik zu erklären und bei Molekülen anzuwenden. Er/Sie kann unterschiedliche spektroskopische Methoden darstellen. Die Studierenden können die mathematischen Grundlagen der elementaren der Quantenmechanik anwenden.</p>		
<b>Courses</b> (type, number of weekly contact hours, language – if other than German)		
V + Ü + V + Ü (no information on SWS (weekly contact hours) and course language available)		
<b>Method of assessment</b> (type, scope, language – if other than German, examination offered – if not every semester, information on whether module is creditable for bonus)		
a) 1 to 3 written examinations (1 written examination: approx. 90 minutes; 2 written examinations: 60 or 90 minutes each; 3 written examinations: 60 minutes each) or b) oral examination of one candidate each (approx. 20 minutes) or c) oral examination in groups (groups of 2, approx. 30 minutes)		
<b>Allocation of places</b>		
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<b>Additional information</b>		
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<b>Referred to in LPO I</b> (examination regulations for teaching-degree programmes)		
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<b>Module appears in</b>		
<p>Bachelor' degree (1 major) Biochemistry (2011)          Bachelor' degree (1 major) Biochemistry (2013)          Bachelor' degree (1 major) Biochemistry (2009)          Bachelor' degree (1 major) Chemistry (2010)          Bachelor' degree (1 major) Chemistry (2009)</p>		

Bachelor' degree (1 major) Mathematics (2012)  
Bachelor' degree (1 major) Mathematics (2013)  
Bachelor' degree (1 major) Computational Mathematics (2009)  
Bachelor' degree (1 major) Computational Mathematics (2012)  
Bachelor' degree (1 major) Computational Mathematics (2013)  
Bachelor' degree (1 major) FOKUS Chemistry (2011)