

<b>Level:</b> bachelor				
<b>Course title:</b> Chemical bonding and molecular structure				
<b>Status:</b> obligatory				
<b>ECTS:</b> 8				
<b>Requirements:</b> none				
<b>Learning objectives</b> The course is an advanced physical chemistry course devoted to structure of atoms and molecules, chemical bond and molecular spectroscopy. The goal of this course is to provide students with knowledge about the molecular structure based on quantum theory. It is also intended to master the theoretical basis of molecular spectroscopy and train students for its practical applications in chemistry.				
<b>Learning outcomes</b> Full understanding of the importance of quantum chemical theories of chemical bonding, as well as the capability for independent student use of molecular spectroscopy techniques and independent decision-making relevant to the practical applications in chemistry.				
<b>Syllabus</b> <i>Theoretical instruction</i> Atomic Structure, Covalent bonding, Ionic bonding, Coordination bonding, Hydrogen bonding, Metal bonding, Molecular structure and stereochemical rules, Molecular spectra.  <i>Practical instruction</i> Experimental and theoretical exercises follow theoretical teaching.				
<b>Weekly teaching load</b>				Other:
Lectures: 3	Exercises: 2	Other forms of teaching: 2	Student research:	