

Module: Modern Methods in Spectroscopy			
University/department/institute: Freie Universität Berlin/Department of Biology, Chemistry and Pharmacy/Institute of Chemistry and Biochemistry			
Responsible for the module: module lecturers			
Admission requirements: none			
Qualification aims: The students have deepened their understanding of modern methods of spectroscopy for examining the structures and dynamics of molecules, liquids and condensed matter and can apply this knowledge in a range of contexts to solving problem sets in groups.			
Content: Brief recapitulation of the principles of optical spectroscopy; terahertz spectroscopy, fluorescence spectroscopy, photoelectron spectroscopy, X-ray spectroscopy, short pulse and ultra-short pulse spectroscopy, spectroscopy with electrons and neutrons; light, electron and neutron scattering; methods of spectromicroscopy; applications of modern spectroscopy in chemistry, the environment and life sciences			
Teaching and learning units	Attendance (Semester hours per week = SH)	Forms of active participation	Study time (hours)
Lecture	2	-	Attendance L 30 Preparation and follow-up L 30 Attendance T 30 Preparation and follow-up T 30
Tutorial	2	Solving problem sets, contributing to discussions	Examination preparation, examination 30
Language of instruction		German or English	
Compulsory regular attendance		Attendance recommended	
Study time, total hours		150 hours	5 CP
Duration of module		One semester	
Module offered		Every other semester	
Application		Master's program in Chemistry	