

Module: Electrochemistry			
University/Department/Institute: Freie Universität Berlin/Department of Biology, Chemistry, Pharmacy/Institute of Chemistry and Biochemistry			
Module supervisors: Lecturers of the module			
Entrance Requirements: none			
Goals of Qualification: Students have acquired knowledge of the basic electrochemical theory, founded on the principles of chemical thermodynamics. They are able to discuss features of electrochemical processes with both a thermodynamic and a kinetic approach. They are acquainted with established and new methods for electrochemical measurement and examples of electrochemical analysis and sensor systems. With current examples of application, e.g. fuel cells, batteries and solar energy they have expanded their knowledge about relationships.			
Contents: Electrolyte solutions and transport of charge, electrochemical cells, electrochemical bilayers, electrochemical kinetics, application of electrochemistry in energy technology and analytics			
Teaching methods	Hours of attendance (Hours per week)	Forms of active participation	Workload (hours)
Lecture	2	-	Presence (L) 30 Pre-, post-preparation (L) 45
Tutorial	1	Solving assignments, contributions to topic related discussions	Presence (T) 15 Pre-, post-preparation (T) 30 Exam preparation and examination 30
Language offer of lecture		German	
Compulsory regular attendance		Attendance is recommended	
Workload (total)		150 hours	5 CP
Length of module		One Semester	
Examination		Exam (120 minutes); The exam can also be conducted electronically	
Lecture is offered		Once per year	
Applicability		Bachelor study program Chemistry, Bachelor study program Biochemistry, Bachelor study program Chemistry for teachers in training	