

Module: Chemical Thermodynamics			
University/Department/Institute: Freie Universität Berlin/Department of Biology, Chemistry, Pharmacy/Institute of Chemistry and Biochemistry			
Module supervisors: Lecturers of the module			
Entrance Requirements: successful completion of the module „Basics of Mathematics for Chemistry“			
Goals of Qualification: This module imparts knowledge of the basics of chemical thermodynamics. Students are able to characterize chemically relevant processes, concerning their expected position of chemical equilibrium with given external conditions. They are able to solve lecture related problems independently, can present their solutions to their study group and discuss the answers in groups.			
Contents: Systems in their thermodynamic equilibrium, Introduction to the kinetic gas theory to establish an atomic link to the macroscopic description of thermodynamics, quantitative description of the thermodynamic equilibrium, laws of thermodynamics, thermodynamic equations of state and state functions, thermodynamics of mixed phases (chemical equilibrium, phase equilibrium), electrochemical systems and their thermodynamic characteristics as relevant cases of application			
Teaching methods	Hours of attendance (Hours per week)	Forms of active participation	Workload (hours)
Lecture	3	-	Presence (L) 45 Pre-, post-preparation (L) 45
Tutorial	1	Solving assignments, Contributions to topic related discussions, development of solutions to assignments on the board	Presence (T) 15 Pre-, post-preparation (T) 45 Exam preparation and examination 30
Language offer of lecture		Deutsch	
Compulsory regular attendance		Attendance is recommended	
Workload (total)		180 hours	6 CP
Length of module		One Semester	
Examination		Exam (180 minutes); The exam can also be conducted electronically	
Lecture is offered		Every Semester	
Applicability		Bachelor study program Chemistry	