

Course description

Course abbreviation:	KFCH/C120	Page:	1 / 2
Course name:	Equilibrium Thermodynamics		
Academic Year:	2023/2024	Printed:	29.05.2024 09:22

Department/Unit /	KFCH / C120			Academic Year	2023/2024
Title	Equilibrium Thermodynamics			Type of completion	Examination
Accredited/Credits	Yes, 5 Cred.			Type of completion	Combined
Number of hours	Lecture 2 [HRS/WEEK] Seminar 2 [HRS/WEEK]			Course credit prior to	NO
Occ/max	Status A	Status B	Status C	Counted into average	YES
Summer semester	0 / -	0 / -	0 / -	Min. (B+C) students	not determined
Winter semester	2 / -	0 / -	0 / -	Repeated registration	NO
Timetable	Yes			Semester taught	Winter semester
Language of instruction	Czech			Internship duration	0
Optional course	Yes				
Evaluation scale	A B C D E F				
No. of hours of on-premise					
Auto acc. of credit	No				
Periodicity	K				
Substituted course	None				
Preclusive courses	N/A				
Prerequisite courses	N/A				
Informally recommended courses	N/A				
Courses depending on this Course	N/A				

Course objectives:

The course brings information about behavior of the substances in external force fields and about of estimation of properties of pure substances and their mixtures using the advanced equations of state and information about theory of activity coefficient.

Requirements on student

Regular weekly checking of the knowledge by solving theoretical and numerical problems - 40% of the subject examination
Final examination (oral knowledge verification) - 60% of the subject examination

Content

Using more sophisticated equations of state for the determination of thermodynamics properties of real substances.
Thermodynamics of systems in the gravitation, centrifugal, electrostatic and magnetic fields. Thermodynamics of low temperatures - cryogenics. Theory of solutions - activity coefficients.

Prerequisites - other information about course preconditions

Knowledge on the level of the Advanced Physical Chemistry course

Competences acquired

The course enhances knowledge of Chemical Thermodynamics compared to course Advanced Physical Chemistry

Fields of study

Guarantors and lecturers

- Guarantors:** doc. Ing. Pavel Čičmanec, Ph.D. (100%)

- **Lecturer:** doc. Ing. Pavel Čičmanec, Ph.D. (100%)
- **Seminar lecturer:** doc. Ing. Pavel Čičmanec, Ph.D. (100%)

Literature

- **Basic:** Novák J., Růžička K. *Chemická termodynamika I.* VŠCHT Praha, 2002.
- **Basic:** Dohnal V., Novák J., Matouš J. *Chemická termodynamika II.* VŠCHT Praha, 1997.
- **Recommended:** SANDLER S.I. *Chemical and Engineering Thermodynamics, 3th Ed.* John Wiley & Sons, New York, 1999.

Teaching methods

Work with text (with textbook, with book)

Assessment methods

Work-related product analysis

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Physical Chemistry	Follow-up study	Full-time	Physical Chemistry	1	2022	2023	povinné předměty	A	1	ZS
Physical Chemistry	Follow-up study	Full-time	Physical Chemistry	1	2023	2023	povinné předměty	A	1	ZS
Inorganic and Bioinorganic Chemistry	Follow-up study	Full-time	Inorganic and Bioinorganic Chemistry	1	2022	2023	volitelné předměty	C	1	ZS
Inorganic and Bioinorganic Chemistry	Follow-up study	Full-time	Inorganic and Bioinorganic Chemistry	1	2023	2023	volitelné předměty	C	1	ZS