

Course description

Course abbreviation: KCH/VMCHA
Course name: Selected Methods of Chemical Analysis
Academic Year: 2016/2017

Page: 1 / 2

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Department/Unit /	KCH / VMCHA	Academic Year	2016/2017
Title	Selected Methods of Chemical Analysis	Type of completion	Pre-Exam Credit
Accredited/Credits	Yes, 5 Cred.	Type of completion	Combined
Number of hours	Tutorial 5 [Hours/Week]	Course credit prior to	NO
Occ/max	Status A Status B Status C	Counted into average	NO
Summer semester	10 / - 0 / 0 0 / 0	Min. (B+C) students	not determined
Winter semester	0 / - 0 / - 0 / -	Repeated registration	NO
Timetable	Yes	Semester taught	Summer semester
Language of instruction	Czech		
Substituted course	None		
Preclusive courses	N/A		
Prerequisite	N/A		
Informally recommended courses	N/A		
Courses depending on this Course	N/A		

Course objectives:

Practical education of analysis by means of spectral methods (AAS, UV/VIS) and by elektroanalytical methods; it covers selected methods of samples treatment, too.

Requirements on student

Credit will be allocated on the basis of 100% participation in practical exercises and surrendered and accepted protocols.

Evaluation of the subject as well as the exam grading is made according to the articles No 31 - 33 in the Regulations on Study and Examinations University of Ostrava

Content

1. Introduction with practical tasks and laboratory equipment.
2. - 6. practical tasks:
 1. Fast sequential multielement determination by AAS (Varian FS 240).
 2. Real sample analysis by means of FS - multielement determination of metals
 3. Determination of selected compound by means of UV/VIS (Cary 50, Varian).
 4. Potentiometry - membrane electrodes activation, calibration of pHmeter, pH measurement.
 5. Voltammetry on solid electrode
 6. Solid sample decomposition.
 9. Sequential leaching of solid.
7. - 13. Analysis of unknown sample - choice and optimization of method of analytical process

Prerequisites - other information about course preconditions

none

Competences acquired

obtaining of practical experience with the instrumental analytical methods
obtaining of principles of laboratory practice

Studijní opory

Guarantors and lecturers

- **Guarantors:** doc. Ing. Zuzana Navrátilová, CSc.

- **Tutorial lecturer:** Mgr. Lenka Bláhová, doc. Ing. Zuzana Navrátilová, CSc.

Literature

- **Recommended:** *Aplikační listy používané instrumentace.- Application forms used by instrumentation..*
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Time requirements

Activities	Time requirements for activity [h]
Being present in classes	65
Semestral work	45
Preparation for a credit test	10
Consultation of work with the teacher/tutor (incl. electronic)	5
Total:	125

assessment methods

professional knowledge

Continuous analysis of student's achievements

prerequisite

professional knowledge

none

teaching methods

professional knowledge

Ability and practical skills

Briefing

Experiment

Observation

learning outcomes

professional knowledge

obtaining of practical experience with the instrumental analytical methods

obtaining of principles of laboratory practice

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Chemistry	Postgraduate Master	Full-time	Analytical Chemistry of Solid Phase	1	2013	2016	Povinné předměty	A	1	LS