

Course description

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

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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	Internship duration	0
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

Fields of study

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

teaching methods

professional knowledge

Ability and practical skills

Briefing

Experiment

Observation

learning outcomes

professional knowledge - knowledge resulting from the course:

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