

# Course description

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

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**Printed:** 20.01.2018 04:07

<b>Department/Unit /</b>	KCH / VMCHA	<b>Academic Year</b>	2016/2017
<b>Title</b>	Selected Methods of Chemical Analysis	<b>Type of completion</b>	Pre-Exam Credit
<b>Accredited/Credits</b>	Yes, 5 Cred.	<b>Type of completion</b>	Combined
<b>Number of hours</b>	Tutorial 5 [Hours/Week]	<b>Course credit prior to</b>	NO
<b>Occ/max</b>	Status A      Status B      Status C	<b>Counted into average</b>	NO
<b>Summer semester</b>	10 / -      0 / 0      0 / 0	<b>Min. (B+C) students</b>	not determined
<b>Winter semester</b>	0 / -      0 / -      0 / -	<b>Repeated registration</b>	NO
<b>Timetable</b>	Yes	<b>Semester taught</b>	Summer semester
<b>Language of instruction</b>	Czech	<b>Internship duration</b>	0
<b>Substituted course</b>	None		
<b>Preclusive courses</b>	N/A		
<b>Prerequisite</b>	N/A		
<b>Informally recommended courses</b>	N/A		
<b>Courses depending on this Course</b>	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
<b>Total:</b>	<b>125</b>

### 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