

Course description

Course abbreviation: KCH/OBCH1
Course name: General Chemistry 1
Academic Year: 2016/2017

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Department/Unit /	KCH / OBCH1	Academic Year	2016/2017
Title	General Chemistry 1	Type of completion	Exam
Accredited/Credits	Yes, 4 Cred.	Type of completion	Combined
Number of hours	Přednáška 2 [Hours/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	52 / - 0 / 0 0 / 0	Repeated registration	NO
Timetable	Yes	Semester taught	Winter 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:

Aims
Study of the general relations and laws that are a necessary prerequisite for further study of chemistry. It covers interpretation of basic chemical concepts, basic knowledge about atom structure, and periodic table of elements, chemical bonds and chemical reactions.

Requirements on student

Requirements
Requirements for the subject finishing:
Participating in the written part of exam (minimum 60% of points)
Participating in the oral part of exam

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

- Content**
1. Basic chemical concepts and laws.
 2. Atomic nucleus
 3. Atomic electron shell
 4. Periodic law and periodic table of elements.
 5. Chemical bond.
 6. Chemical reactions.
 7. Bases of chemical thermodynamics
 8. Bases of chemical kinetics

Prerequisites - other information about course preconditions

none

Competences acquired

Competences

The students know basic concepts from the field of general chemistry (in accordance with the subject content). They can justify validity of the general relations from the field of general chemistry (in accordance with the subject content). They can explain the selected phenomena and processes from the field of general chemistry (in accordance with the subject content). They explain formation of chemical bond and describe the individual types of chemical bonds and their properties. They consciously use connection between structure and properties of organic for explaining and justifying.

Fields of study**Guarantors and lecturers**

- **Guarantors:** doc. PaedDr. Dana Kričfaluši, CSc.
- **Lecturer:** doc. PaedDr. Dana Kričfaluši, CSc.

Literature

- **Recommended:** Klikorka, J., Hájek, B., Votinský, J. *Obecná a anorganická chemie*. SNTL, Praha, 1989.
- **Recommended:** Žúrková, L. *Obecná chémia*. SPN, Bratislava, 1985.
- **Recommended:** Vacík, J. *Obecná chemie*. SPN, Praha, 1986.
- **Recommended:** Polák, R., Zahradník, R. *Obecná chemie: stručný úvod*. Academia Praha, 2000.

Time requirements

Activities	Time requirements for activity [h]
Being present in classes	26
Consultation of work with the teacher/tutor (incl. electronic)	8
Preparation for an exam	40
Self-tutoring	26
Total:	100

assessment methods**Knowledge**

- Oral examination
- Written examination

teaching methods**Knowledge**

- Dialogic (discussion, dialogue, brainstorming)
- Monologic (explanation, lecture, briefing)
- Projection (static, dynamic)

learning outcomes**Knowledge - knowledge resulting from the course:****Competences**

The students know basic concepts from the field of general chemistry (in accordance with the subject content). They can justify validity of the general relations from the field of general chemistry (in accordance with the subject content). They can explain the selected phenomena and processes from the field of general chemistry (in accordance with the subject content). They explain formation of chemical bond and describe the individual types of chemical bonds and their properties. They consciously use connection between structure and properties of organic for explaining and justifying.

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Applied Physics	Bachelor	Full-time	Biophysics	1	2012	2016	Povinné předměty	A	1	ZS
Applied Physics	Bachelor	Full-time	Biophysics	1	2014	2016	Povinné předměty	A	1	ZS
Chemistry	Bachelor	Full-time	Chemistry	1	2012	2016	Povinné předměty	A	1	ZS
Chemistry	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2	2016	Povinné předměty	A	1	ZS
Chemistry	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2014	2016	Povinné předměty	A	1	ZS
Physics	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2014	2016	Povinné předměty	A	1	ZS