

Course description

Course abbreviation: KCH/SOBC1
Course name: Seminar - General Chemistry 1
Academic Year: 2016/2017

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Department/Unit /	KCH / SOBC1	Academic Year	2016/2017
Title	Seminar - General Chemistry 1	Type of completion	Pre-Exam Credit
Accredited/Credits	Yes, 2 Cred.	Type of completion	Oral
Number of hours	Seminář 2 [Hours/Week]	Course credit prior to	NO
Occ/max	Status A Status B Status C	Counted into average	NO
Summer semester	0 / - 0 / - 0 / -	Min. (B+C) students	not determined
Winter semester	0 / 0 41 / - 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
The seminar course repeats and deepens nomenclature of the inorganic compounds and subsequently the individual topics of lectures are exercising by means of the problems and examples solving.

Requirements on student

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

The seminars programme for the individual weeks (including tests):

1. The seminars schedule, literature. Bases of the inorganic nomenclature I - independent work.
2. Bases of the inorganic nomenclature II - independent work.
3. Exercising of the inorganic nomenclature.
4. The basic concepts and laws. T1: The inorganic nomenclature.
5. Atomic nucleus, radioactivity, nuclear reactions.
6. Electron shell of atoms. Atomic orbitals. Electron configuration.
7. Periodic law and periodic element system. Periodicity of the physical and chemical properties of elements.
T2: Configuration of atom
8. Chemical bond (general regularities). The electron structure formulas.
9. Chemical bond - types of bonds. The three-dimensional shapes of particles.
T3: Periodic law and periodic element system.
10. Chemical bond - theory of molecular orbitals. Coordination-covalence bond.
11. T4: Chemical bond.
12. Chemical reactions. Chemical thermodynamics.
13. The credit work.

Prerequisites - other information about course preconditions

none

Competences acquired

Competences

The students can use the basic concepts and law of general chemistry for solving problems; they predict the processes courses on base of knowledge about the general chemistry laws. They know rules of the chemical nomenclature of the inorganic compounds; they can apply them for the chemical formulas and names. They predict the substances properties on base of knowledge about the general laws (esp. structure).

Fields of study**Guarantors and lecturers**

- **Guarantors:** doc. PaedDr. Dana Kričfaluši, CSc.
- **Seminar lecturer:** doc. PaedDr. Dana Kričfaluši, CSc.

Literature

- **Basic:** Hříchová, Vulterin. *Názvosloví a příklady z obecné a anorganické chemie*. UK Praha, 1981.
- **Basic:** Štablová, Vulterin. *Názvosloví a příklady z obecné a anorganické chemie*. PeF UK, Praha, 1988.
- **Extending:** Jursík a kol. *Metodické pokyny a problémové úlohy z obecné a anorganické chemie*. SNTL, Praha, 1985.
- **Extending:** Růžička, Mezník. *Příklady a problémy z obecné chemie*. PřF MU, Brno, 1994.
- **Extending:** Kameníček, Šindelář. *Příklady a úlohy z obecné a anorganické chemie*. PřF UP, Olomouc, 1982.
- **Recommended:** Tržil J., Ullrych J., Slovák V. *Příklady z chemie*. VŠB-TU Ostrava, 1999.
- **Recommended:** Tržil, Rosenfeld, Ullrych. *Sbírka příkladů z chemie*. VŠB Ostrava, 1994.
- **Recommended:** Sýkora a kol. *Všeobecná chemia (pracovní zošit)*. STU Bratislava, 1992.
- **Recommended:** Kalousová a kol. *Výpočty a cvičení z obecné a anorganické chemie*. VŠCHT, Pardubice, 1988.

Time requirements

Activities	Time requirements for activity [h]
Being present in classes	26
Self-tutoring	12
Preparation for test	12
Total:	50

assessment methods**Knowledge**

Continuous analysis of student's achievements

teaching methods**Knowledge**

Dialogic (discussion, dialogue, brainstorming)

Individual tutoring

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

Competences

The students can use the basic concepts and law of general chemistry for solving problems; they predict the processes courses on base of knowledge about the general chemistry laws. They know rules of the chemical nomenclature of the inorganic compounds; they can apply them for the chemical formulas and names. They predict the substances properties on base of knowledge about the general laws (esp. structure).

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	Povinně volitelné předměty	B	1	ZS
Applied Physics	Bachelor	Full-time	Biophysics	1	2014	2016	Povinně volitelné předměty	B	1	ZS
Chemistry	Bachelor	Full-time	Chemistry	1	2012	2016	Povinně volitelné předměty	B	1	ZS
Chemistry	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2	2016	Povinně volitelné předměty	B	1	ZS
Chemistry	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2014	2016	Povinně volitelné předměty	B	1	ZS
Physics	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2014	2016	Povinně volitelné předměty	B	1	ZS