

Course description

Course abbreviation:	KCH/SORC1	Page:	1 / 3
Course name:	Seminar - Organic Chemistry 1		
Academic Year:	2016/2017	Printed:	20.01.2018 15:50

Department/Unit /	KCH / SORC1	Academic Year	2016/2017
Title	Seminar - Organic Chemistry 1	Type of completion	Pre-Exam Credit
Accredited/Credits	Yes, 2 Cred.	Type of completion	Written
Number of hours	Seminář 2 [Hours/Week]		
Occ/max	Status A Status B Status C	Course credit prior to	NO
Summer semester	0 / 0 35 / - 0 / 0	Counted into average	NO
Winter semester	0 / - 0 / - 0 / -	Min. (B+C) students	not determined
Timetable	Yes	Repeated registration	NO
Language of instruction	Czech	Semester taught	Summer semester
Substituted course	None	Internship duration	0
Preclusive courses	N/A		
Prerequisite	N/A		
Informally recommended courses	N/A		
Courses depending on this Course	N/A		

Course objectives:

Requirements

Achieving minimum 50 points from total 100 in the written part of exam, satisfying the requirements of the oral exam to obtain at least grading "good".

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

1. Structure of the organic compounds (kinds of bonds, bond length, bond angles, isomerism). Alkanes (nomenclature, reactivity, preparation).
2. Alkenes (nomenclature, electron structure of double bond, isomerism of double bond, reactivity, preparation).
3. Alkynes (nomenclature, electron structure of triple bond, reactivity, preparation). Arenes (nomenclature, electron structure and theory of aromatic state, reactivity, preparation).
4. Halogen derivatives (nomenclature, reactivity, preparation).
5. Organometallic compounds, complex hybrids (preparation and use in organic chemistry).
6. Hydroxy derivatives, mercapto derivatives (nomenclature, the chemical properties and reactivity, preparation).
7. Ethers and sulphides (nomenclature, the chemical properties and reactivity, preparation).
8. Sulfonic, sulfinic and sulfenic acids and their derivatives (nomenclature, properties, preparation)
9. Nitrogenous derivatives of hydrocarbons (classification, nomenclature, the chemical properties and preparation).
10. Carbonyl compounds (classification, nomenclature, the chemical properties and reactivity, preparation).
11. Carboxylic acids and their function and substitution derivatives (structure and nomenclature, the chemical properties and reactivity, preparation).
12. Heterocyclic compounds (classification, structure and nomenclature, the chemical properties and reactivity, preparation).
13. Saccharides (classification, structure and nomenclature, Fischer, Tollens, and Haworth formulas, the molecular models, reactivity)

Prerequisites - other information about course preconditions

none

Competences acquired

Competences

The students can use basic concepts and relations of organic chemistry to the problems solution; they can predict the reaction course on bases of knowledge of the structure and general relations of organic chemistry. They know rules of chemical nomenclature of the organic compounds and are able to apply them in the formation of the chemical formulas and names.

Fields of study**Guarantors and lecturers**

- **Guarantors:** Ing. Rudolf Peter, CSc.
- **Seminar lecturer:** Ing. Rudolf Peter, CSc.

Literature

- **Basic:** Červinka O., Dědek V., Ferles M. *Organická chemie (druhé, přepracované vydání), SNTL/ALFA, Praha 1980.*

Time requirements

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

assessment methods**professional knowledge**

- Continuous analysis of student's achievements
- Written examination

teaching methods**professional knowledge**

- Briefing
- Dialogic (discussion, dialogue, brainstorming)
- Kinetic and practical skills training

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

Competences

The students can use basic concepts and relations of organic chemistry to the problems solution; they can predict the reaction course on bases of knowledge of the structure and general relations of organic chemistry. They know rules of chemical nomenclature of the organic compounds and are able to apply them in the formation of the chemical formulas and names.

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	LS
Applied Physics	Bachelor	Full-time	Biophysics	1	2014	2016	Povinně volitelné předměty	B	2	LS

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Chemistry	Bachelor	Full-time	Chemistry	1	2012	2016	Povinně volitelné předměty	B	2	LS
Chemistry	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2	2016	Povinně volitelné předměty	B	2	LS
Chemistry	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2014	2016	Povinně volitelné předměty	B	2	LS
Physics	Bachelor	Full-time	Chemistry with Other Degree Specialization	1	2014	2016	Povinně volitelné předměty	B	2	LS