

Course description

Course abbreviation:	KCH/CBCH4	Page:	1 / 3
Course name:	Biochemistry - Practical Seminar		
Academic Year:	2018/2019	Printed:	19.08.2019 20:48

Department/Unit /	KCH / CBCH4	Academic Year	2018/2019
Title	Biochemistry - Practical Seminar	Type of completion	Pre-Exam Credit
Accredited/Credits	Yes, 3 Cred.	Type of completion	Combined
Number of hours	Tutorial 4 [Hours/Week]		
Occ/max	Status A Status B Status C	Course credit prior to	NO
Summer semester	16 / - 0 / 0 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
Optional course	Yes	Internship duration	0
Evaluation scale	S\N		
Hrs. in comb. stud.			
Auto acc. of credit	No		
Periodicity			
Substituted course	None		
Preclusive courses	N/A		
Prerequisite courses	N/A		
Informally recommended courses	N/A		
Courses depending on this Course	N/A		

Course objectives:

Aims

The laboratory seminar is focused on acquirement of basic biochemical procedures in the study of properties of compounds contained in the living systems and playing an important role in the biochemical processes.

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. Safety of labour in the biochemical laboratory.
2. The chemical reactions of amino acids, peptides and proteins.
3. The chemical properties of saccharides.
4. The evidence reactions of lipids
5. Preparation and identification of lipids from egg yolk
6. Izolation of RNA and DNA and their spectral determination
7. Izolation of casein from milk and extraction of proteins from wheat caryopsis
8. Determination of enzyme activity of amylase and external factor influence on its catalytic activity
9. The evidence reactions of vitamins
10. Electrophoresis of DNA in agarose gel
11. Elektrophoresis of proteins in acrylamide gel SDS-PAGE
12. The chemical properties of drinking and industrial water. Direct photometric determination of nitrates.
13. Final evaluation (theoretical knowledge of the individual tasks, the laboratory works, reports) and the credits awarding.

Fields of study

Guarantors and lecturers

- **Guarantors:** Mgr. Michal Haluzík, Ph.D.
- **Tutorial lecturer:** Mgr. Michal Haluzík, Ph.D.

Literature

- **Recommended:** Peč, P. et al. *Laboratorní cvičení z biochemie. PřF UP Olomouc, 2000.*
- **Recommended:** Káš, J. *Laboratorní cvičení z biochemie, VŠCHT Praha, nakl. Olomouc, 2000.*
- **Recommended:** Mikeš, V. *Základní biochemické praktikum. PřF MU Brno, 2000.*

Time requirements

All forms of study

Activities	Time requirements for activity [h]
Being present in classes	52
Semestral work	8
Consultation of work with the teacher/tutor (incl. electronic)	5
Scientific text studying in the Czech language	5
Self-tutoring	8
Total:	78

assessment methods

Knowledge - knowledge achieved by taking this course are verified by the following means:

Continuous analysis of student's achievements

teaching methods

Knowledge - the following training methods are used to achieve the required knowledge:

Ability and practical skills

Briefing

Experiment

Observation

learning outcomes

Knowledge - knowledge resulting from the course:

znalost základních pojmů z oblasti kryptologie, typů šifer a jejich historie
 znalost základních pojmů z oblasti kódování, typů kódů a jejich vlastnosti
 schopnost důkazu obecných vlastností a pravidel z výše uvedené oblasti
 schopnost ilustrace výše uvedeného na konkrétních příkladech šifer a kódů
 schopnost aplikace známých vlastností, tvrzení a postupů na řešení úloh ve výše uvedené problematice
 schopnost studia a orientace v odpovídající odborné literatuře
 kompetence - komunikativní, studijní

Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
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Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Applied Physics	Bachelor	Full-time	Biophysics	1	2014	2018	Povinné předměty	A	3	LS
Chemistry	Bachelor	Full-time	Chemistry	1	2012	2018	Povinné předměty	A	3	LS