**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ ACH2/03 | **Course name:** Inorganic Chemistry II |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 2 **Per study period:** 42 / 28
**Course method:** present

**Number of credits:** 7

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:** ÚCHV/ACH1/03 or ÚCHV/ACH1/10 or ÚCHV/ACHU/03

**Conditions for course completion:**
Written examination at the end of the course. The final mark is given by the sum of points from seminars (max. 10 points) and 3x30 points from written test, totally 100 points. To pass it is required to obtain at least 51 points as well as 51 % of points from every partial examination.

**Learning outcomes:**
Goal of the course is to provide the students with a knowledge of systematic chemistry of metallic elements.

**Brief outline of the course:**
Electronic configuration, abundance, use, physical and chemical properties and reactivity of the elements of the 1st, 2nd groups, transition metal elements, elements of the 12th group, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Se, Te, Po, lanthanides and actinides. Binary and other compounds formed by these elements, their properties and reactivity. General properties, structure and bonding in metals, co-ordination and organometallic compounds.

**Recommended literature:**
1. Greenwood, N. N., Earnshaw, A: Chemistry of the Elements. Pergamon Press, Oxford, 1984
2. Shriver, D.F., Atkins, P.W., Langford, C. H.: Inorganic Chemistry. 2ndEd., Oxford University Press, Oxford, 1995

**Course language:**

**Course assessment**
Total number of assessed students: 602

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 11.63 | 19.1 | 30.4 | 26.58 | 7.81 | 4.49 |

**Provides:** prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Juraj Kuchár, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ ACHU/03 | **Course name:** Inorganic Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 2.

**Course level:** I.

**Prerequisities:** ÚCHV/VCHU/10 or ÚCHV/VCHU/14 or ÚCHV/VCHU/15

**Conditions for course completion:**
Test in the middle and at the end of the semester.
Oral examination.

**Learning outcomes:**
Aim of the course is to provide the students with a knowledge of systematic chemistry of non-metallic elements

**Brief outline of the course:**
Electronic configuration, abundance, use, physical and chemical properties, preparation, reactivity of non-metallic elements hydrogen, halogens, oxygen, sulphur, nitrogen, phosphorus, carbon, silicon, boron and rare gases. Binary and other compounds formed by these elements, their properties and reactivity. Metals and transition elements. Abudance, properties, reactivity, important compounds.

**Recommended literature:**
http://kosice.upjs.sk/~vladimir.zelenak/ACHU.htm (ppt slides from the lectures as a support for self study)
Greenwood, N. N., Earnshaw, A: Chemistry of the Elements. Pergamon Press, Oxford, 1984
Atkins O., Overton T., Rourke J., Weller M., Armstrong F.: Inorganic Chemistry, University Press, Oxford, 2006.

**Course language:**

**Course assessment**
Total number of assessed students: 661

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 10.44 | 20.12 | 30.41 | 25.57 | 10.14 | 3.33 |

**Provides:** prof. RNDr. Vladimír Zeleňák, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ ADP/03 | **Course name:** Porous materials and their applications |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 6.

**Course level:** I., II., III.

**Prerequisities:**

**Conditions for course completion:**
Written test in the middle and the end of the semester.

**Learning outcomes:**
To make the acquaintance of various types of advanced porous solids and basic methods for their investigation. To gen up the students with the methods used in characterisation of specific surface area and pore size of different types of porous materials.

**Brief outline of the course:**
Terminology and principal terms associated with powders, porous solids and adsorption. Methodology of adsorption at the gas-solid interface, liquid-solid interface. Assessment of surface area and porosity. Inorganic materials (active carbon, metal oxides, zeolites, clay minerals, new advanced materials) and phenomenon of adsorption. Application in the industry and everyday life.

**Recommended literature:**
1. F. Rouquerol, J. Rouquerol, K. Sing: Adsorption by powders and porous solids, Academic press, London, UK, 1999
2. S. J. Gregg, K.S.W. Sing: Adsorption, surface area and porosity, Academic Press, London,, UK, 1982.
3. V. Zeleňák: Adsorption and porosity of solid substances, internal study text, PF UPJŠ, 2007.

**Course language:**

**Course assessment**
Total number of assessed students: 78

| A | B | C | D | E | FX | N | P |
|---|---|---|---|---|---|---|---|
| 78.21 | 11.54 | 2.56 | 0.0 | 0.0 | 0.0 | 0.0 | 7.69 |

**Provides:** prof. RNDr. Vladimír Zeleňák, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPE/ ALP/06 | **Course name:** Alternative Education |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 180

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 66.11 | 30.56 | 0.56 | 1.11 | 0.56 | 1.11 |

**Provides:** Mgr. Katarína Petríková, PhD.

**Date of last modification:** 23.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ ANCH1b/03 | **Course name:** Instrumental Analytical Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Test

**Learning outcomes:**
Getting a knowledge of the theoretical principles and instrumentation in analytical chemistry.

**Brief outline of the course:**
Spectroscopic methods of analysis. Electromagnetic radiation. Basic components of spectroscopic instrumentation. Sources of energy. Detectors. Spectroscopy based on absorption. Transmittance and absorbance. Beer's Law. Limitations to Beer's Law. Ultraviolet-visible and infrared spectrophotometry. Atomic absorption spectroscopy. Spectroscopy based on emission. Molecular photoluminescence spectroscopy. Atomic emission spectroscopy. Spectroscopy based on scattering. Mass spectrometry. Electrochemical methods of analysis. Potentiometric methods of analysis. Reference electrodes. Membrane electrodes. Coulometric methods of analysis. Voltammetric methods of analysis. Chromatographic methods. General theory of column chromatography. Optimizing chromatographic separations. Gas chromatography. High-performance liquid chromatography. Ion-exchange chromatography. Supercritical fluid chromatography.

**Recommended literature:**
1. Labuda a kol. Analytická chémia. ISBN: 9788022742429, Vydavateľstvo: STU Bratislava, Rok vydania: 2014, Počet strán: 671
2. Christian G.D. Analytical Chemistry. John Wiley & Sons, Inc. New York – Chichester – Brisbane – Toronto – Singapore 1994.
3. Holtzclaw H.F., Jr., Robinson W.R. College Chemistry with Qualitation Analysis. D.C. Heath and Company 1988.

**Course language:**

**Course assessment**
Total number of assessed students: 519

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 20.42 | 12.14 | 21.58 | 19.08 | 26.4 | 0.39 |

| |
|---|
| **Provides:** prof. Mgr. Vasiľ Andruch, DrSc., RNDr. Rastislav Serbin, PhD., RNDr. Lívia Kocúrová, PhD., RNDr. Jana Šandrejová, PhD. |
| **Date of last modification:** 26.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ANCHU/03 | **Course name:** Analytical Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:** ÚCHV/VCHU/14 or ÚCHV/VCHU/15 or ÚCHV/VCHU/10 or ÚCHV/VACH/10

**Conditions for course completion:**
3x test of analytical calculations.
Examination

**Learning outcomes:**
Survey of basic principles and tasks of analytical chemistry and applications of analytical methods in research and practice.

**Brief outline of the course:**
Subject and role of analytical chemistry. General principles and procedures - sampling, sample pre-treatment. Preparation of solutions. Evaluation of the results.
Classification of analytical reactions. Qualitative analysis of cations and anions. Basic principles of organic analysis.
Methods of quantitative analysis. General principles of gravimetry. Volumetric analysis.
Instrumental methods of analytical chemistry (basic principles, instrumentaion and applications) - electroanalytical, optical and separation methods.

**Recommended literature:**
Skoog D.A.: Principles of Instrumental Analysis. Saunders Col. Publishing, New York 1985.
D.Harvey: Modern Analytical Chemistry. McGraw Hill, Boston, 2000.

**Course language:**

**Course assessment**
Total number of assessed students: 634

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 18.61 | 18.77 | 25.08 | 24.29 | 9.31 | 3.94 |

**Provides:** doc. RNDr. Taťána Gondová, CSc.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ASM/03 | **Course name:** Separation Methods |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:** (ÚCHV/ANCHU/03 or ÚCHV/ANCHE/09 or ÚCHV/ANCH1b/03) and (ÚCHV/PAEC/03 or ÚCHV/PANCH/06 or ÚCHV/PANCHE/09 or ÚCHV/PACU/03)

**Conditions for course completion:**
Examination

**Learning outcomes:**
Survey of basic principles, theoretical background and applications of separation methods in research and analytical practice.

**Brief outline of the course:**
Basic principles, classification, theory and applications of separation methods. Extraction - LLE, SPE, SPME. Chromatographic methods - theory, classification. Gas chromatography, retention mechanisms, stationary phases and their selection. Instrumentation, detectors in GC. Data evaluation - qualitative and quantitative analysis. High-performance liquid chromatography, principles, classification. Stationary and mobile phases in LC, instrumentation. Applications. Comparison of GC and HPLC methods.
Planar chromatographic methods - TLC, HPTLC, PC.
Electrophoretic techniques - CE, ITP, HPCE. MEKC - micellar electrokinetic capillary chromatography. Lab-on-a-Chip (LOC), TAS, electrophoresis on a chip, principles and applications.

**Recommended literature:**
Krupčík, J.: Separačné metódy, SVŠT CHTF, Bratislava 1983.
Skoog D. A., Leary J. J.: Principles of instrumental analysis. Saunders College Publishing, New York 1997.
Pawliszyn J., Lord H. L.: Handbook of sample preparation, Wiley 2010.
Churáček J., Jandera P.: Úvod do vysokoúčinné kapalinové chromatografie, SNTL, Praha 1984.

**Course language:**

**Course assessment**
Total number of assessed students: 439

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 27.11 | 25.06 | 26.2 | 12.98 | 6.15 | 2.51 |

| |
|---|
| **Provides:** doc. RNDr. Taťána Gondová, CSc. |
| **Date of last modification:** 26.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ BAC1/04 | **Course name:** Bioinorganic Chemistry I |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 5.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
Test or seminar works
examination

**Learning outcomes:**
The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment.

**Brief outline of the course:**
Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization.Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life.

**Recommended literature:**
1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006.
2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998.
3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997.

**Course language:**

**Course assessment**
Total number of assessed students: 243

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 41.98 | 27.98 | 18.11 | 4.53 | 7.0 | 0.41 |

**Provides:** doc. RNDr. Zuzana Vargová, Ph.D.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

**Course ID:** ÚCHV/ BACHZ/06 | **Course name:** Fundamentals of Bioanalytical Chemistry

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
written test
Oral examination

**Learning outcomes:**
Principles and theoretical foundations the application of analytical methods in bioanalysis.

**Brief outline of the course:**
Introduction to Bioanalytical Chemistry. Biological samples classification. Factors that affect analytes in biological samples. Collection, transport and storage of samples, the main principles of sampling, the suppressing of undesirable phenomena. Selected methods of pretreatment of biological samples. Analyzers, equipment and organization of work in a clinical laboratory. Control and management of quality in clinical laboratory. Quality manual, calibration, control, and reference materials. Validation and Good Laboratory Practice. Buffers in bioanalysis. Enzymes in bioanalysis, introduction, distribution, Mechanism of enzyme catalysis. The kinetics of enzymatic reactions with one substrate, the Michaelis constant, constant specificity, lag phase, kinetics of reactions with two substrates. Moderators of enzyme activity. Selected methods for analysis of biomolecules.

**Recommended literature:**
1.Mikkelsen S.R, Cortón E.: Bioanalytical Chemistry, Wiley, 2004
2.Wilson I., Bioanalytical Separations 4, (Handbook of Analytical Separations), Elsevier, 2003
3.Lee, D.C., Webb, M. Pharmaceutical Analysis, Blackwell, 2003

**Course language:**

**Course assessment**
Total number of assessed students: 75

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 30.67 | 33.33 | 30.67 | 4.0 | 0.0 | 1.33 |

**Provides:** doc. RNDr. Katarína Reiffová, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

**Course ID:** ÚCHV/BCHU/03 | **Course name:** Biochemistry

**Course type, scope and the method:**
**Course type:** Lecture
**Recommended course-load (hours):**
**Per week:** 3 **Per study period:** 42
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:** ÚCHV/VCHU/10 or ÚCHV/VCHU/15 or ÚCHV/VACH/10 or ÚCHV/VCHU/14

**Conditions for course completion:**
test + oral examination

**Learning outcomes:**
The aim of biochemistry teaching is to acquire knowledge in the field of living organisms on the basis of their molecular structure and metabolism.

**Brief outline of the course:**
1. Protein Structure and Function, Exploring proteins
2. DNA and RNA and the Flow of Genetic Information, Exploring genes
3. Enzymes: Basic Concepts and Kinetics, Catalytic Strategies and Regulatory Strategies
4. Carbohydrates (Monosaccharides, Disaccharides, Polysaccharides – Functions and Properties)
5. Lipids and Cells Membranes, Membrane Channels and Pumps
6. Metabolis: Basic Concepts and Design, Signal-Transduction Pathways
7. Glycolysis and Gluconeogenesis, Glycogen Metabolism
8. The Citric Acid Cycle and Glyoxylate Cycle
9. Oxidative Phosphorylation, The Light Reactions of Photosyntesis
10. The Calvine Cycle and the Pentose Phosphate Pathway
11. Fatty Acids Metabolism, Urea Cycle
12. DNA Replication, Transcription (RNA Synthesis)
13. Protein Synthesis & Degradation, the Integration of Metabolism

**Recommended literature:**
Škárka: Biochémia. Alfa, 1992
Voet a Voetová: Biochemie. Victoria Publishing, Praha, 1994
Stryer, L.: Biochemistry, W.H. Freeman and Company, New York, 1988

**Course language:**

**Course assessment**
Total number of assessed students: 1105

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 18.01 | 17.47 | 20.81 | 21.54 | 19.28 | 2.9 |

| |
|---|
| **Provides:** doc. RNDr. Erik Sedlák, PhD., RNDr. Nataša Tomášková, PhD. |
| **Date of last modification:** 26.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚBEV/ BDD/05 | **Course name:** Biology of Children and Adolescents |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 0 **Per study period:** 28 / 0
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4., 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Written test

**Learning outcomes:**
The aim of the subject is to gain the particular level of knowledge about human body and its development. It is neccessary for the understanding of specific biological characteristics of children and adolescents linked to development.

**Brief outline of the course:**
Human ontogenesis. Postnatal development. Age specific features of skeletal and muscalar, circulatory, respiratory, gastrointestinal and urinary systems. Reproductive system. Endocrine system. Nervous system. Age specifics of selected diseases and drug dependence arise. Human population and environment.

**Recommended literature:**
Drobný I., Drobná M.: Biológia dieťaťa pre špeciálnych pedagógov I. a II. Bratislava, PdF UK, 2000
Lipková V.: Somatický a fyziologický vývoj dieťaťa. Osveta Bratislava, 1980
Malá H., Klementa J.: Biológia detí a dorastu. Bratislava, SPN, 1989

**Course language:**

**Course assessment**
Total number of assessed students: 1402

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 30.53 | 22.97 | 17.9 | 18.12 | 9.91 | 0.57 |

**Provides:** doc. RNDr. Monika Kassayová, CSc.

**Date of last modification:** 21.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ BKP/14 | **Course name:** Bachelor Project |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Submission of the bachelor project, the defense of the project and acceptance of its content by the supervisor.

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**
1. Scientific papers related to the topic of the bachelor project.
2. Directive No. 1/2011 of the rector UPJS in Košice.

**Course language:**

**Course assessment**
Total number of assessed students: 40

| abs | n |
|---|---|
| 100.0 | 0.0 |

**Provides:**

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ BKP/14 | **Course name:** Bachelor Project |
| **Course type, scope and the method:**<br>**Course type:**<br>**Recommended course-load (hours):**<br>**Per week: Per study period:**<br>**Course method:** present | |
| **Number of credits:** 2 | |
| **Recommended semester/trimester of the course:** 5. | |
| **Course level:** I. | |
| **Prerequisities:** | |
| **Conditions for course completion:** | |
| **Learning outcomes:** | |
| **Brief outline of the course:** | |
| **Recommended literature:** | |
| **Course language:** | |
| **Course assessment**<br>Total number of assessed students: 73 | |

| abs | n |
|---|---|
| 95.89 | 4.11 |

| |
|---|
| **Provides:** |
| **Date of last modification:** 22.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ BLZ/18 | **Course name:** Unmanned Aerial Vehicles |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 1 / 2 **Per study period:** 14 / 28
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 5.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 20

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 35.0 | 20.0 | 40.0 | 5.0 | 0.0 | 0.0 |

**Provides:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ján Kaňuk, PhD., Bc. Eduard Dvorný

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/BPO/14 | **Course name:** Bachelor Thesis and its Defence |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Oral presentation of the thesis results. Answering questions of the thesis oponent or members of the state examination board.

**Recommended literature:**

**Course language:**
slovak

**Course assessment**
Total number of assessed students: 154

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 87.01 | 9.09 | 1.95 | 1.95 | 0.0 | 0.0 |

**Provides:**

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ BPO/14 | **Course name:** Bachelor Thesis and its Defence |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 109

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 35.78 | 30.28 | 16.51 | 10.09 | 7.34 | 0.0 |

**Provides:**

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ CHV1/99 | **Course name:** Chemical calculations |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Short written tests.
Written test.

**Learning outcomes:**
To teach students how to calculate material balances in the systems with or without chemical processes and how to calculate examples concerning the chemical equilibrium.

**Brief outline of the course:**
Expression of the clear matter amount and the system composition. Stoichiometric formula. Material bilances for preparation, dissolving and mixing of solutions, and for separating of mixtures. Material bilances for combined processes. Chemical equations and material bilances in the systems with chemical processes. Acid-Base equilibrium and the pH calculations. The solubility product and solubility.

**Recommended literature:**
Potočňák I.: Chemické výpočty vo všeobecnej a anorganickej chémii (skriptum), PF UPJŠ, Košice, 2006.

**Course language:**

**Course assessment**
Total number of assessed students: 1240

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 20.56 | 19.68 | 24.44 | 20.56 | 13.95 | 0.81 |

**Provides:** RNDr. Martin Vavra, PhD., RNDr. Miroslav Almáši, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KFaDF/ DF2p/03 | **Course name:** History of Philosophy 2 (General Introduction) |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 6.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 738

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 60.84 | 13.82 | 12.6 | 8.67 | 3.39 | 0.68 |

**Provides:** doc. PhDr. Pavol Tholt, PhD., mim. prof., Doc. PhDr. Peter Nezník, CSc., PhDr. Katarína Mayerová, PhD., doc. Mgr. Róbert Stojka, PhD.

**Date of last modification:** 31.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚMV/ DGS/15 | **Course name:** Students` Digital Literacy |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
continuous assessment and final project

**Learning outcomes:**
To acquire an overview of the current possibilities of digital technology to develop skills and competencies with emphasis on the area of communication, social interaction and personal.
To acquire basic digital skills for working with advanced technologies (mobile phone, tablet, laptop, social media, online webtechnologies). To understand the value of existing advanced technologies for better and more effective learning, work and active life in higher education, lifelong learning and further career prospects.

**Brief outline of the course:**
Introduction to the problems of current, commonly available digital technology. Tools for access to online information source (mobile applications for access to information systems, databases, data books). Tools for collecting, generating direct information and data and its subsequent analysis and visualization. Tools for providing and sharing of electronic content (cloud technology - Google Drive, Youtube, Google+, Skydrive, Dropbox). Tools for communication, discussion and collaborative activities. Legal work with digital technologies and resources, plagiarism, critical evaluation of digital resources. Security, privacy, digital ethics and etiquette, digital citizenship.

**Recommended literature:**
1. Bruff, D. (2009). Teaching with classroom response systems: Creating active learning environments. San Francisco: Jossey-Bass.
2. Byrne, R. (2012). Google Drive and Docs for Teachers. Free Tech for Teachers.
3. Kawasaki, G. (2012). What the Plus! Google+ for the Rest of Us. Amazon igital Services.
4. Kolb, L. (2011). Cell Phones in the Classroom: A Practical Guide for Educators. International Society for Technology in Education.

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 147

| abs | n |
|---|---|
| 96.6 | 3.4 |
| **Provides:** doc. RNDr. Stanislav Lukáč, PhD., doc. RNDr. Jozef Hanč, PhD., doc. RNDr. Ľubomír Šnajder, PhD. | |
| **Date of last modification:** 23.08.2017 | |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. | |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚINF/ EDS/15 | **Course name:** Educational software |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 0 / 2 **Per study period:** 0 / 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
1 Preparation of interim assignments:
a) Worksheet for student (with custom graphics)
b) Multimedia educational presentation (with pictures, animations and sounds)
c) Interactive educational quiz (with several types of quiz items)
d) Methodological guidance on the use of interactive applications in teaching selected topic of chosen school subject.
2 Creation and presentation of final project on the use of educational software in education.

**Learning outcomes:**
1. To acquire an overview of the educational software types and its exploitation in education.
2. To gain or enhance basic skills in working with:
a) presentation software, programs for creation and editing images, animations, diagrams, sounds, concept maps,
b) programs for creation of quizes, questionnaires, voting,
c) simulation and modeling software,
d) selected subject-oriented educational programs,
3. To create and present a final project on the use of educational software in education.

**Brief outline of the course:**
Educational software types. Onlilne educational sources and tools. Multimedia processing. Tools for creation of teaching aids.

**Recommended literature:**
1. Digitálna gramotnosť učiteľa : učebný materiál- modul 1 / Rastislav Adámek ... [et al.]. - Košice : Ústav informácií a prognóz školstva, 2009. - 80 s. - ISBN 9788080861193(brož.).
2. Moderná didaktická technika v práci učiteľa : učebný materiál modul 2 / Rastislav Adámek ... [et al.] ; recenzenti Viliam Fedák, Anton Lavrin. - Košice : Elfa, 2010. - 200 s. - ISBN 9788080861353 (brož.).
3. Web, Multimédiá / Martin Homola ... [et al.]. - Bratislava : Štátny pedagogický ústav, 2010. - 68 s. - Č. projektu: ŠPVV ĎVUi 26120130001. - ISBN 9788081180514 (brož.).

**Course language:**

**Notes:**

Content of lessons will be flexibly adapted to the field of study of learners. Language learners will be able to work more with pictures and sounds, physicists with simulation programs, mathematicians with mathematical software, etc.

**Course assessment**

Total number of assessed students: 30

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 63.33 | 20.0 | 13.33 | 0.0 | 3.33 | 0.0 |

**Provides:** doc. RNDr. Ľubomír Šnajder, PhD.

**Date of last modification:** 23.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ EXFG/15 | **Course name:** Physical Geography Excursion |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 6d
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 706

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 89.94 | 7.79 | 1.27 | 0.14 | 0.42 | 0.42 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ EXHG1/15 | **Course name:** Human Geography Excursion |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 6d
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 674

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 82.94 | 8.75 | 5.64 | 1.04 | 0.89 | 0.74 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., RNDr. Stela Csachová, PhD., Mgr. Marián Kulla, PhD., Mgr. Ladislav Novotný, PhD., RNDr. Janetta Nestorová-Dická, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ FCH1b/10 | **Course name:** Physical Chemistry II |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 2 **Per study period:** 42 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:** ÚCHV/FCH1a/03 or ÚCHV/FCHU/10

**Conditions for course completion:**
Two partial tests from computational seminars in 6th and 12th week of semester.
Examination.

**Learning outcomes:**
Understandable explain to students the principles of chemical kinetics of processes, to elucidate the kinetics and mechanism of some reactions. To analyse particularly the equilibrium and kinetics of electrode processes.

**Brief outline of the course:**
Electrochemistry. Equilibrium homogeneous processesn electrolyte solutions. Charge transfer in electrolyte solutions. Nonequilibrium homogeneous processes. Trnasport processes in electrolyte solutions. Conductance and molar conductivity. Hindering effects. Transport numbers. Equilibrium in heterogeneous electrochemical systems. Pocesses on charged interfaces. Electrochemical cells and fuel cells. Classification of electrode types. Concentration cells. Electrolysis. Electrochemical power sources. Potentiometry. Electrical double layer. Surface tension.
Chemical kinetics. Homogeneous processes. Reaction rate. Reaction order. Classification of chemical reactions. Elementary chemical reactions. Mechanism and kinetics equations of complicated chemical processes. Methods of rate low determination. Theory of chemical kinetics. Ttemperature dependence of reaction rates. Collision theory. Activated complex theory. Chain reactions. Structure and rate lows of chain reactions. Explosion. Polymerisation reactions. Photochemical reactions. Catalysis. Theory of homogeneous catalysis. Chemical oscillation reactions. Heterogeneous processes. Difusion. Physical and chemical adsorption. Adsorption and diffusion. Processes in heterogeneous electrochemical systems. Electrode kinetics, activation and diffusive mechanism of charge transfer.
Application of theoretical relationships on the solving of concrete problems and on the calculation of examples during seminars.

**Recommended literature:**
T. Engel, P. Reid : Physical Chemistry, Pearson Educat. Inc., San Francisco 2006
P.W. Atkins : Physical Chemistry,Oxford University Presss, Oxford 1986, 1990, 1994, 1998
W.J. Moore : Physical Chemistry,Longman, London 1972 and newer editions

**Course language:**

**Course assessment**
Total number of assessed students: 530

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 15.66 | 18.68 | 22.26 | 18.87 | 20.57 | 3.96 |

**Provides:** prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Jana Hovancová, RNDr. Ondrej Petruš, PhD., Mgr. Radka Gorejová, Mgr. Dominika Capková

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/FCHU/10 | **Course name:** Physical Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 2 **Per study period:** 42 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:** ÚCHV/VCHU/14 or ÚCHV/VCHU/10 or ÚCHV/VACH/10 or ÚCHV/VCHU/15

**Conditions for course completion:**
Two partial tests from computational seminars.
Examination.

**Learning outcomes:**
To provide the students with basic knowledge of physical chemistry.

**Brief outline of the course:**
Fundamental concepts of thermodynamics, thermochemistry, chemical equilibrium, phase equilibria and diagrams, laws for ideal gas and reals gases, liquids, solutions, solutions of electrolytes. Electrochemistry: ionics and electrodics. Electrodes and electrochemical cells, corrosion. Chemical kinetics, catalysis. Adsorption.

**Recommended literature:**
T. Engel, P. Reid: Physical Chemistry, Pearson Educat. Inc., San Francisco 2006
P.W. Atkins: Physical Chemistry, Oxford University Presss, Oxford 1986, 1990, 1996
W.J. Moore: Physical Chemistry, Longman, London 1972 and newer editions

**Course language:**

**Course assessment**
Total number of assessed students: 256

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 31.64 | 19.53 | 14.45 | 17.19 | 13.28 | 3.91 |

**Provides:** prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Ján Macko, PhD., RNDr. Ivana Šišoláková, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ FGS/15 | **Course name:** Physical Geography of Slovakia |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 431

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 20.42 | 29.47 | 30.86 | 12.99 | 4.18 | 2.09 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚFV/ FPCh/08 | **Course name:** Physics for Chemists |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 2 **Per study period:** 28 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Test-papers (2).
Exam.

**Learning outcomes:**
Completing the course students will get knowledge of fundamental physical laws and will understand their relation to chemistry.

**Brief outline of the course:**
Kinematics and dynamics of mass point, rigid bodies and fluids. Structure and properties of materia. The kinetic theory of gases and the foundations of thermodynamics. Structure and properties of liquids. Mechanical properties of solids, Hooke's Law. Stationary el. field and constant electric current. Magnetic field. Optics.

**Recommended literature:**
1. V. Hajko, J. Daniel-Szabó: Základy fyziky. Veda, Bratislava, 1980.
2. Š. Veis, J. Maďar, V. Martišovič: Všeobecná fyzika 1, Mechanika a molekulová fyzika. Alfa, Bratislava, 1978.
3. P. Čičmanec: Všeobecná fyzika 2, Elektrina a magnetizmus. Alfa, Bratislava, 1980.
4. R.P. Feynman, R.B. Leighton, M. Sands: Feynmanove prednášky z fyziky 1-5. Alfa, Bratislava, 1985.
5. V. Hajko a kol.: Fyzika v príkladoch. Alfa, Bratislava, 1983.

**Course language:**
Slovak language.

**Course assessment**
Total number of assessed students: 496

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 19.56 | 29.23 | 29.03 | 14.11 | 7.86 | 0.2 |

**Provides:** doc. Mgr. Gregor Bánó, PhD., RNDr. Zuzana Jurašeková, PhD.

**Date of last modification:** 01.03.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ FYG1/18 | **Course name:** Physical geography 1 |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Hydrology of the running water, genesis and development of river basins, measuring of water and its flow. Genesis and the main types of lakes, temperatures, water movements. Sea and water currents, its chemical properties, relief of the sea-floor. Subsurface waters, glaciers.
In the section of soil science and soil geography, physical and chemical nature of soils will be treated as well as actual and presently used systens of the soil classification. Distribution of different soil types in the world and Slovakia, principles of the soil zonality.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 686

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 2.33 | 4.96 | 19.1 | 28.28 | 38.05 | 7.29 |

**Provides:** RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., Mgr. Imrich Sládek, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ FYG2/05 | **Course name:** Physical geography 2 |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Atmospheric conditions and their physical origins, general planetary air circulation, most important climatic types and the climate of Slovakia. Measuring of the basic meteorological events will be done by students in the practical part of this course. In the study of biogeography we will focus on the biosphere as a part of the physical-geographic sphere. Further focus will be put on the function and position of organisms on the surface, as well as the main regularities of their distribution throughout the world. Phytogeographical and zoogeographical regions of the world and Slovakia. In the practical part students acquaint with the soil profiles and important kinds of plants in Slovakia.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 646

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 28.48 | 27.86 | 25.7 | 11.15 | 6.35 | 0.46 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD., Mgr. Imrich Sládek, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/GCR/12 | **Course name:** Geography of the Czech Republic |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 5.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Geological structure of the Czech Republic, main geological entities according to the newest classification. Geomorphological structure and the relief evolution, geomorphological entities and units. Climate, hydrography of the Czech Republic, underground waters and mineral waters. Soils, phytogeography and zoogeography, present landscape types.
History of settlements in the Czech Republic from the historical perspective. National, linguistic and religious structure. Urban and rural settlements. Administrative division and its historical development. Economiy of the country - natural resouces, agriculture, industry, transport, education and tourism.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 218

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 50.0 | 31.65 | 15.14 | 3.21 | 0.0 | 0.0 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., Mgr. Marián Kulla, PhD.

**Date of last modification:** 20.09.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GEE2/07 | **Course name:** Geoecology |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Focus will be put on the development of this discipline, different dimensions of the physical – geographic complexes, regularities of the space differentiation of the physical – geographic sphere, evolution, and dynamics of the physical – geographic complexes. Synthesis of the principles of landscape and landscape-ecological planning.

**Recommended literature:**
BEDRNA, Z., a kol. 1992: Analýza a čiastkové syntézy zložiek krajinnej štruktúry. Bratislava. Učebné texty, 95 s..
MIČIAN, Ľ., ZATKALÍK, F. 1984: Náuka o krajine a starostlivosť o životné prostredie. UK Bratislava skriptá,137s.
MIČIAN, Ľ. 1989: Pokus o novú definíciu krajinnej ekológie. Ekológia (ČSFR), 3,1,Veda, Bratislava, s. 7-12.
MIČIAN, Ľ. 2008: Všeobecná geoekológia. Bratislava: Geo-grafika, 88 s. – Skriptá.

**Course language:**

**Course assessment**
Total number of assessed students: 648

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 5.09 | 12.5 | 20.22 | 24.23 | 35.65 | 2.31 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Dušan Barabas, CSc., Mgr. Imrich Sládek, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GEM2/18 | **Course name:** Geomorphology |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 2 **Per study period:** 28 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 2.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 1173

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 9.72 | 21.48 | 20.97 | 16.37 | 21.14 | 10.32 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD., Mgr. Imrich Sládek, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GEOM/15 | **Course name:** Geography |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 1

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 113

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 15.93 | 19.47 | 26.55 | 17.7 | 20.35 | 0.0 |

**Provides:**

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GEP2/18 | **Course name:** Fundamentals of Geology for Geographers |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 2 **Per study period:** 28 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Courses have following objectives: firstly, to introduce the current theories of processes which occur in the Earth (global tectonics, species of magmatism), secondly, to describe the rock-forming minerals, taxology of intrusive rocks, taxology of sedimentary rocks and rocks which had overcame metamorphosis, basics of the regional geology of Slovakia, basics of the historical geology and paleontology.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 995

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 7.14 | 15.38 | 31.46 | 28.54 | 11.66 | 5.83 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., Ing. Katarína Bónová, PhD., Ing. Ján Bóna

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GEX1/07 | **Course name:** Geological excursion |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 3d
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 2.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Visiting of different localities in the Western Carpathian tectonic units - Flysh belt, Klippen belt, Central Western Carpathians. Visiting of several localities of mining in Slovakia and getting to know the process of manufacturing of the rocks.

**Recommended literature:**
Regionálne geologické mapy Slovenska (1:50 000) + Vysvetlivky.
ŽEC, B. et al., 2005: Exkurzný sprievodca ku kongresu Slovenskej geologickej spoločnosti Zemplínska šírava - Medvedia hora. CompuGraph, Košice, 138s.
BIELY, A. et al., 1996: Geologická mapa Slovenska, 1 : 500 000. MŽP SR, ŠGÚDŠ, Bratislava.
MIŠÍK, M., 1976: Geologické exkurzie po Slovensku. SPN Bratislava, 276 s.
NĚMEC, F., 1987: Kľúč na určovanie nerastov a hornín. SPN Bratislava, 240 s.
PELLANT, CH., PELLANTOVÁ, H., 1994: Horniny a minerály. Osveta, Martin, 256 s.

**Course language:**

**Course assessment**
Total number of assessed students: 403

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 79.16 | 15.63 | 3.23 | 0.0 | 0.0 | 1.99 |

**Provides:** Ing. Katarína Bónová, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GIS/15 | **Course name:** Geographic Information Systems |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 2 **Per study period:** 28 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
The assessment is a combination of continual control during the practicals and the final exam in the examination period. The continual assessment is performed during the semester and it involves 1 written test in the mid-term of the semester and a project report generated according to the assignment and practical skills acquired during the practicals. The student can go for the final exam in case he or she acquired at least the E mark in the continual assessment. The final assessment mark is the result of the average of the marks received in the mid-term test, project report and final exam. The final exam is a written test. The credits are given in case the student had reached at least the E mark in continual assessment and final exam. The following marking scheme is applied in the assessment: A (100-90 points), B (80-89 points), C (70-79 points), D (60-69 points), E (50-59 points), FX (0-49 points).

**Learning outcomes:**
The student will understand the basics of the theory of geoinformation science, GIS, and Remote Sensing. The student will be able perform tasks in a GIS software, generate thematic amps and conduct basic spatial analyses such as spatial querries, atribute querries, terrain modelling, editing custom geodata, importing geodata.

**Brief outline of the course:**

**Recommended literature:**

**Course language:**
Slovak or Czech or English

**Course assessment**
Total number of assessed students: 317

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 30.28 | 24.92 | 25.87 | 12.3 | 6.62 | 0.0 |

**Provides:** doc. Mgr. Michal Gallay, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ GMAP/13 | **Course name:** Geomorphological mapping |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
The evaluation of the subject consists of assesment of one main semestral work - geomorphological map of the area (50 points) and 2-3 partial works (50 points), the total amount of points is 100. The student has to aquire minimum of half points from each work. For successful graduation of the subject the student has to aquire 51 points and more.

**Learning outcomes:**
after the graduation of the subject the student should information applied to the praxis and be able to map area with the main aim of high quality map and the legenda.

**Brief outline of the course:**
The main of the subject is to understand the topic of the geomorphological mapping, geomorphological map and its importance. It deals with the history of the geomorphological mapping, maps in slovak and foreign literature, about theory and praxis of field works and maps compilation, creating of the geomorphological map legenda for different relief types. With help of graphical softwers we are working with morphometric and morphographic relief characeter, the morphogenetical nad morphodynamical interpretation of the geomorphological map. After the theoretical part of seminars there is practical field mapping in the scale of 1: 10 000 at the and of the semester.

**Recommended literature:**
DEMEK, J. (edit.), 1972: Manual of detailed geomorphological mapping. Academia, Brno, 344 s.
MINÁR, J., 1995: Niektoré teoreticko-metodologické problémy geomorfológie vo väzbe na tvorbu komplexných geomorfologických máp. Acta Facultatis Rerum Naturalium Universitatis Comenianae, Geographica Nr. 36, Bratislava, 7-125.
SMITH, M., PARON P., GRIFFITHS, J., 2011: Geomorphological mapping – methods and applications. School of Geography, Geology and the Environment, Kingston University, UK. 610 s.
URBÁNEK, J., 1997: Geomorfologická mapa: niektoré problémy geomorfologického mapovania na Slovensku. Geografický časopis, 49, 3-4, 175-186.
ZAŤKO, M. et al. 1986: Obecná geomorfologická mapa a jej legenda. In: Cvičenia z fyzickej geografie. Prírodovedecká fakulta Univerzity Komenského, Bratislava. 43-53.

**Course language:**

**Course assessment**
Total number of assessed students: 10

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 90.0 | 0.0 | 10.0 | 0.0 | 0.0 | 0.0 |

**Provides:** RNDr. Alena Gessert, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ HGS/15 | **Course name:** Human Geography of Slovakia |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 431

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 3.71 | 9.51 | 18.56 | 35.27 | 28.31 | 4.64 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD., RNDr. Janetta Nestorová-Dická, PhD., Mgr. Loránt Pregi, Mgr. Ladislav Novotný, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ HUG2a/05 | **Course name:** Human geography (productive sphere) |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Location theories, factors and methods of industry evaluation. Territorial industrial units and regionalisation of the industry in Slovakia. Geographical characteristics of selected types of industry. Relationship of industry and environment. Trends in development and problems of the world economy. Development of agriculture and regularities of distribution of agricultural lands. The agricultural countries and their typology. The land use map. Geography of forests and its typology.

**Recommended literature:**
FALKOWSKI, J., KOSTROWICKI, J., 2001: Geografia rolnictwa świata. PWN, Warszawa, 516 p.
KNOX, P., L., et al. 2010: Human geography. Places and regions in Global Context. pearson International Edition., 513 p.
KOREC, P. 1994: Humánna geografia 1. Prírodovedecká fakulta, Univerzita Komenského, Bratislava, 120 s.
MIRVALD, S., 2002: Geografie dopravy II. ZČU Plzeň, 56 s.
MIRVALD, S., 2002: Geografie dopravy III. ZČU Plzeň, 43 s.
POPJAKOVÁ, D., 1997: Základné kapitoly z geografie priemyslu, Prešov: PU, 144 s.
SPIŠIAK, P., 2005: Základy geografie poľnohospodárstva a lesného hospodárstva. Prírodovedecká fakulta, Univerzita Komenského, Bratislava. 140 s.
TOUŠEK, V. a kol., 2008: Ekonomická a sociální geografie, Plzeň, 2008, 411 s.

**Course language:**

**Course assessment**
Total number of assessed students: 611

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 7.2 | 21.6 | 29.3 | 27.99 | 11.78 | 2.13 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD., Mgr. Martina Magdošková

| |
|---|
| **Date of last modification:** 22.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ HUGN/15 | **Course name:** Human geography (Non-production Systems) |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

BOROVSKÝ, J. a kol., 2008: Cestovný ruch, trendy a perspektívy. Iura Edition, 280 s.
GOELDNER, CH.R., BRENT RICHIE, J.R., 2014: Cestovní ruch - principy, příklady, trendy. Biz books, 545 s.
HALÁS, M., 2000: Zahraničný obchod SR s ČR. Geographical Studies 7, Constantine the Philosopher University Nitra, s. 98-107.
HALL, C.M. - PAGE, S.J. 2002: The geography of tourism and recreation, 2. edition, London and New York, 399 p.
HAVRLANT, J., 2007: Geografie cestovního ruchu I. Základy geografie cestovního ruchu, Ostravská univerzita, 41 s.
MARIOT, P., 1983: Geografia cestovného ruchu. Veda, Bratislava, 224 s.
OTRUBOVÁ, E., 2003: Humánna geografia II (Geografia zahraničného obchodu, Geografia cestovného ruchu). Prírodovedecká fakulta UPJŠ, Košice, 105 s.
ŠTEPÁNEK, KOPAČKA, ŠÍP, 2001: Geografie cestovního ruchu, Vydalo Karolinum Praha, 228s.

**Course language:**

**Course assessment**
Total number of assessed students: 435

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 15.17 | 23.22 | 28.05 | 21.15 | 11.26 | 1.15 |

**Provides:** Mgr. Marián Kulla, PhD., prof. RNDr. Peter Spišiak, CSc., Mgr. Martina Magdošková

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ HYP/15 | **Course name:** Fieldwork in Hydrology |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 62

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Provides:** RNDr. Dušan Barabas, CSc.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** KPE/ INP/17 | **Course name:** Inclusive Pedagogy |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 0

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Provides:**

**Date of last modification:** 05.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ ISC1a/00 | **Course name:** Cheminformatics I |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
seminar project

**Learning outcomes:**
Introductory course aimed at introducing students to the fundamental informatics techniques for chemistry-related disciplines. The class will cover a wide range of topics, including searching chemical information on internet, searching for patent information and work with the primary and secondary literature.

**Brief outline of the course:**
Searching, retrieving and use of the informations in chemistry. Using of "paper" resources (primary journals, Chemical Abstracts, Beilstein).Searching chemical information on Internet (Scirus, ScienceDirect, Scopus, Web of Science, Medline, NIST) and e-journals.

**Recommended literature:**
1. R.E. Maizell: How to find Chemical Information, John Wiley,
New York 1998
2. Internet resources for chemistry.

**Course language:**
slovak language and english language

**Course assessment**
Total number of assessed students: 787

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 68.49 | 8.64 | 13.21 | 7.24 | 1.65 | 0.76 |

**Provides:** RNDr. Monika Tvrdoňová, PhD., RNDr. Ladislav Janovec, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ KAG/15 | **Course name:** Cartography and Geoinformatics |

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 2 **Per study period:** 28 / 28
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
During the semester it is necessary to pass out the work outputs from the exercises. The knowledge gained on the exercises will be verified by continuous written examinations. The number of work outputs and written examinations will be announced at the beginning of the semester. It is possible to obtain 30% of the assessment criteria for the exercise (work outputs and written examinations). The resulting assessment from the exercise is based on the method fulfilled/not fulfilled. The final evaluation of the study subject is based on the combination of the evaluation conditions from the exercise and the final exam. The final exam may be enrolled by a student who has fulfilled the requirements for attending the exercises. The final assessment is the weighted average of the exercise assessment (30%) and the final exam (70%). Credits are awarded only to a student who achieves rating at least at the grade level of the grade E. Credits will not be awarded to a student who does not meet the requirements of the exercise and the exam is rated FX.

**Learning outcomes:**
The main learning outcomes include theoretical and practical skills in cartography and geoinformatics. Students understand cartographic and GIS terminology, students can apply cartographic approaches and methods using GIS, projections and define the content and composition of maps in GIS.

**Brief outline of the course:**
Cartography - the branch of science, position in the system of sciences, the history of cartography, topographic mapping in Slovakia; Cartographic projects, cartographic interpretation; Description maps, geographical names, cartographic generalization, State map series; Cartometry and morphometry; Mathematical cartography (reference area map projection and distortion). Geoinformatics – the branch of science, elements of GIS, digital representation of landscape, raster and vector data, data collection and processing data for GIS, geospatial database, visualization and cartographic representation using GIS, applications of GIS.

**Recommended literature:**
HOFIERKA, J., J. KAŇUK, M. GALLAY, 2014. Geoinformatika. Košice: Univerzita Pavla Jozefa Šafárika v Košiciach. ISBN 978-80-8152-178-2.
HOJOVEC, V. et al., 1987. Kartografie. Praha: Geodetický a kartografický podnik v Praze. ISBN 29-621-87.

LONGLEY, P.A., M. GOODCHILD, D. J. MAGUIRE, D. W. RHIND, 2010. Geographic Information Systems and Science. 3rd ed. Hoboken: Wiley & Sons, ISBN 978-0-470-72144-5.
PRAVDA, J., D. KUSENDOVÁ, 2004. Počítačová tvorba tematických máp. Bratislava: Univerzita Komenského v Bratislave. ISBN 80-223-2011-0.
ROBINSON, A. H. et al., 1995. Elements of Cartography. 6th ed. Hoboken: Wiley & Sons. ISBN 0-471-55579-7.
VOŽENÍLEK, V. et al., 2011. Metody tematické kartografie - Vizualizace prostorových jevů. Olomouc: Univerzita Palackého v Olomouci. ISBN 978-80-24427-90-4.

**Course language:**

**Course assessment**
Total number of assessed students: 345

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 11.59 | 23.19 | 21.16 | 17.97 | 21.16 | 4.93 |

**Provides:** prof. Ing. Vladimír Sedlák, PhD., Mgr. Ján Šašak, Mgr. Katarína Onačillová

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ KAR/05 | **Course name:** Basics of Karstology and Speleology |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 222

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 77.48 | 15.32 | 5.41 | 0.0 | 1.8 | 0.0 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/KCHU/03 | **Course name:** Coordination Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:** ÚCHV/ACHU/03

**Conditions for course completion:**
Final written exam

**Learning outcomes:**
The student acquires basic knowledge on the coordination compounds, preparation, isomerism and properties of coordination compounds as well as about the chemical bonding in coordination compounds.

**Brief outline of the course:**
Definition and nomenclature of coordination compounds. Central atom and ligands, coordination numbers. Isomerism, preparation and stability of coordination compounds, chemical bonding in coordination compounds.

**Recommended literature:**
J. Ribas: Coordination Chemistry, Wiley-VCH, Weinheim, 2008.
J. C. Huheey, E. A. Keiter, R. L. Keiter: Inorganic Chemistry, Haper Collins, New York, 1993.
G. A. Lawrance: Introduction to Coordination Chemistry, Wiley, 2010.

**Course language:**

**Course assessment**
Total number of assessed students: 63

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 55.56 | 22.22 | 15.87 | 3.17 | 3.17 | 0.0 |

**Provides:** prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Juraj Kuchár, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ KMG/17 | **Course name:** Quantitative Methods in Geography |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 1 / 2 **Per study period:** 14 / 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 2., 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 121

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 28.93 | 19.01 | 18.18 | 19.01 | 14.88 | 0.0 |

**Provides:** RNDr. Janetta Nestorová-Dická, PhD., prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Jozef Šupinský

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚTVŠ/ KP/12 | **Course name:** Survival Course |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 36s
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
Conditions for course completion:
Attendance
Final assessment: continuous fulfilment of all tasks within the course

**Learning outcomes:**
Learning outcomes:
Students will be familiarized with principles of safe stay and movement in extreme natural conditions as they will obtain theoretical knowledge and practical skills to solve the extraordinary and demanding situations connected with survival and minimization of damage to health. The course develops team work and students will learn how to manage and face the situations that require overcoming of obstacles.

**Brief outline of the course:**
Brief outline of the course:
Lectures:
1. Principles of behaviour and safety for movement and stay in unknown mountains
2. Preparation and leadership of tour
3. Objective and subjective danger in mountains
4. Principles of hygiene and prevention of damage to health in extreme conditions
Exercises:
1. Movement in terrain, orientation and navigation in terrain (compasses, GPS)
2. Preparation of improvised overnight stay
3. Water treatment and food preparation.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 365

| abs | n |
|---|---|
| 44.38 | 55.62 |

| |
|---|
| **Provides:** MUDr. Peter Dombrovský, Mgr. Marek Valanský |
| **Date of last modification:** 18.08.2017 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ KRS/08 | **Course name:** Complex geographic characteristics of selected world regions |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
At the beginning of semester, students will be told the topics to be drawn up as written report and presented in a slideshow. This part is 50 % of total grading. The results of tests written during the semester constitute another 50 % of total grading. To obtain A grade, weighted average of the both parts of examination must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain less than 50 % from any of both parts of examination.

**Learning outcomes:**
Understanding of causal relations between individual geographic phenomena in spatial and temporal context of individual regions; extended knowledge about selected regions.

**Brief outline of the course:**
Geographic location, geologic history and structure, orography and shapes of coast, climate, hydrology, soils and biogeography, protection of nature, current landscape and its transformation, historical and political development, population and sites, economy and integration groupings in selected regions of the world.

**Recommended literature:**
DE BLIJ, H. J. et al: 2013: The World Today - Concepts and Regions in Geography, 6th edition. New York (Wiley), 528 p.
HOBBS, J. J. 2010: Fundaments of World Regional Geography, 2nd edition. Belmont (Brooks/ Cole), 438 p.
WEIGHTMAN, B. 2010: Dragons and Tigers – A Geography of South, East and Southeast Asia, 3rd edition. Hoboken (Wiley), 523 p.
BAAR, V. 2002: Národy na prahu 21. století. Emancipace nebo nacionalismus? Ostrava (Ostravská univerzita), 416 s.
BRADSHAW, W. et al. 2012: Contemporary World Regional Geography, 4th edition. New York (McGrawHill), 620 p.

**Course language:**
Slovak and English

**Course assessment**
Total number of assessed students: 476

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 27.94 | 36.34 | 21.85 | 8.4 | 4.83 | 0.63 |
| **Provides:** Mgr. Ladislav Novotný, PhD. | | | | | |
| **Date of last modification:** 20.09.2017 | | | | | |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. | | | | | |

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ KUL/12 | **Course name:** Cultural geography |

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 3.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
- presentation of paper on the assignment theme, concluding test – minimum of success rate is 60 %

**Learning outcomes:**
- deeping and gaining a new knowlidges): - about research object and subject of cultural geography and incorporation of cultural geography in the context of human geographical events,
- about cultural develompent on the Earth,
- about development and basic feature of civilisation),
- about globalization in culture and her trends, etc.).

**Brief outline of the course:**
1. Cultural geography, object and subject of resarch and incorporation of cultural geography in the context of human geographically events
2. Cultural geography, object and subject of resarch and incorporation of cultural geography in the context of human geographically events
3. Helping events of cultural geography - history, archaeology, ethnology, ... etc.
4. Cultural development of mankind – its manifestations, artefacts and geographically differentiation
5. Fire paces of world civilization, its origin and genesis. Fundamental characteristics and manifestations, contribution for the present
6. Ethnic, nationality and religion differentiation of world population
7. Cultural landscape, its attributes, components and elements
8. Cultural manifestations mankind in the rural and urban landscape – agriculture, ..., fine art, architecture (styles and its geographical distribution
9. Cultural regions of world - in opinion of various conceptions and authors
10. Cultural regions of Slovakia
11. Educational excursion on the selected theme – for example Jews in the Slovakia – exposition in Prešov, Jews in Košice, etc

**Recommended literature:**
ANDĚL. J. (1998): Kultúrní geografie. UJEP Ústí nad Labem, 146 s.
BARŠA, P. Politická teorie multikulturalismu, CDK, 1999.
BEŇUŠKOVÁ, Z. et al. Tradičná kultúra regiónov Slovenska.

BERGMAN, E. F. (1995): Human Geography. Cultures, Connections and Landscapes. Prentice Hall, Engewood Cliffs.
BONNEMAISON, J. (2005): Culture and Space. I. B. Tauris.
COSGROVE, D., JACKSON, P. (1987): New direction in cultural geography. Area, 19, 95-101.
DOSTÁL, P. (1999): Ethnicity, mobiilization and territory: an overview of recent experiences. Acta UC, Geographica, XXXIV, 1, s. 45-58. (KgaRR č. 2937)
HEŘMANOVÁ, E., CHROMÝ, P. a kol.(2009). Kulturní regiony a geografie kultury. 1. vyd. Praha: ASPI, a. s., 292-301. ISBN 978-80-7357-339-3.
KRUPA, V., GENZOR, J. (1996): Jazyky sveta v priestore a čase. Veda, SAV Bratislava, 356 s. ISBN 80-224-0459-4, s. 27-43.
MACDONALD, F., MASON, A. (2009): Kultúra Ľudstva. Ottova encyklopédia. Ottovo nakladatelství, s. r. o. Praha, 256 s. ISBN 978-80-7360-469-1
MIKLÓŠ, L. et al. 1996 Prírodné podmienky a kultúra využitia krajiny, Kult.-historické krajinno-ekologické podmienky rozvoja B. Štiavnice, Sv. Jura a Lipt. Tepličky, B. Štiavnica
MURRAY, W, E. (2006): Geographies of Globalization. Routledge Contemporary Human Geography. Routledge Taylor & Francis Group London and New York, 32 s.
NEUE KULTURGEOGRAPHIE. Petermanns Geographische Mitteilungen, 2/2003. Themenheft PGM. ISBN 3-623-08102-7
ROGERS, A. (1994): Lidé a kultúry. Nakladatelský dům Praha, 256 s.

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 480

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 55.42 | 31.25 | 9.79 | 3.13 | 0.42 | 0.0 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

**Course ID:** ÚTVŠ/ LKSp/13

**Course name:** Summer Course-Rafting of TISA River

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 36s
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
Conditions for course completion:
Attendance
Final assessment: Raft control on the waterway (attended/not attended)

**Learning outcomes:**
Learning outcomes:
Students have knowledge of rafts (canoe) and their control on waterway.

**Brief outline of the course:**
Brief outline of the course:
1. Assessment of difficulty of waterways
2. Safety rules for rafting
3. Setting up a crew
4. Practical skills training using an empty canoe
5. Canoe lifting and carrying
6. Putting the canoe in the water without a shore contact
7. Getting in the canoe
8. Exiting the canoe
9. Taking the canoe out of the water
10. Steering
a) The pry stroke (on fast waterways)
b) The draw stroke
11. Capsizing
12. Commands

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 142

| abs | n |
|---|---|
| 41.55 | 58.45 |

| |
|---|
| **Provides:** Mgr. Peter Bakalár, PhD. |
| **Date of last modification:** 18.08.2017 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ LOS/18 | **Course name:** Linux and open source GIS |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 3.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 22

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 68.18 | 31.82 | 0.0 | 0.0 | 0.0 | 0.0 |

**Provides:** doc. Mgr. Michal Gallay, PhD., prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Štefan Kolečanský

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ MG/18 | **Course name:** Geography of mining |

**Course type, scope and the method:**
**Course type:** Lecture
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
The evaluation is based on a combination of continuous and final control. The continuous control is carried out during the teaching part by written test with a share of 30 % of the final evaluation. The final control is written and constitutes 70 % of the final evaluation. The resulting evaluation is a weighted average of the continuous (30 %) and final (70 %) controls. Credits will be awarded only to student who achieves the evaluation at the minimum level of the mark E in every part of the evaluation.

**Learning outcomes:**
To acquaint students with basic facts and knowledge of the history of mining science from the view of geographic aspect to obtain information overview of the history of world and Slovak mining for geographic purposes.

**Brief outline of the course:**
Historical foundations of the global mining industry, mining oldest written records of mining heyday in the Middle Ages, the first mining maps, Slovak ore mining in the Austro-Hungarian Empire, First World Mining Academy in Banská Štiavnica mining and migration of the population, the world "gold rush", salt roads Europe, coal mining and electrification of industry, environmental consequences of mining devastation, mining open-air museums in Slovakia and Europe and their importance for the promotion of tourism.

**Recommended literature:**
Odporúčaná literatúra:
Ježek, B. a Hummel, J., 2006: Georgius Agricola, Dvanásť kníh o baníctve a hutníctve. Preklad z českého originálu: Petr, K. a Petrová, M., Ostrava: Montanex a.s., 2006, 546s., ISBN 80-7225-218-6.
Puzder, J., 2000: Samuel Mikovíni, život a dielo. Košice: FBERG TU Košice, 115s.
Vozár, J., 2000: Zlatá kniha baníctva. Košice: Tibor Turčan/Banská agentúra, 2000, 263s., ISBN 80-968421-4-5.
Vozár, J., 2002: Kódex mestského a banského práva Banskej Štiavnice. Košice: Tibor Turčan/ Banská agentúra, 2002, 71s., ISBN 80-968621-2-X.
Zícha, Z., 2005: Back to the past. The history of technology and manpower in the mining is a legacy which cannot be forgotten. Ústí nad Labem: CDL Design s.r.o., 2005, 98p., ISBN 80-902278-9-9.

**Course language:**
Slovak

**Notes:**
without notices

**Course assessment**
Total number of assessed students: 6

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 66.67 | 16.67 | 16.67 | 0.0 | 0.0 | 0.0 |

**Provides:** prof. Ing. Vladimír Sedlák, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ MHG1/07 | **Course name:** Fieldwork in Human Geography |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 4d
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 529

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 95.46 | 0.95 | 1.51 | 1.51 | 0.57 | 0.0 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., RNDr. Stela Csachová, PhD., Mgr. Marián Kulla, PhD., RNDr. Janetta Nestorová-Dická, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ MIK/15 | **Course name:** Microgeography |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Účasť na cvičení, vypracovanie a prezentácia semestrálnej práce, absolvovanie záverečného testu. Kredity sa neudelia študentovi, ktorý nebude mať úspešne spracovanú a odprezentovanú semestrálnu prácu a neabsolvuje záverečný test min. na 50%. Semestrálna práca musí byť spracovaná podľa pokynov vyučujúceho, týkajúcich sa rozsahu, štruktúry a mapových príloh. Výsledná známka je daná váženým priemerom podľa kľúča: 2x známka za semestrálnu prácu + 1x známka z testu/3 = výsledná známka.

**Learning outcomes:**
Ability of synthesis and analysis of selected micro-region for the needs of local government.

**Brief outline of the course:**
1. The micro-region and the local region in the context of regional taxonomic levels. 2. Theory and Methodology, collection of information (data collection). 3. Differentiation landscape sphere and cultural landscapes of the example chosen region (Location - Geology - Relief - Climate - Rivers - Soils - Flora - Fauna - Population (population dynamics, forecasts, Statistical offices) - Settlements (change in the function of settlements, place in the settlement system, land use map, questionnaires, mapping) - Primary sector - Secondary sector - Tertiary Sector. 4. Regionalization – branch, complex, land use. 5. TUR - MUSES - USES - RUSES. 6. Complex presentation of the research territory at the Municipal Office.

**Recommended literature:**
DUBCOVÁ, A. 2012: Mikrogeografia – krajina okolo nás, UKF Nitra, 185 s.
HASPROVÁ, M. 2006: Geografia miestnej krajiny v edukačnom procese, UKF Nitra, 203 s.
KANDRÁČOVÁ, V., MICHAELI, E. 1996: Mikrogeografia v edukácii, výskume a pre prax. In: Krajina východného Slovenska v odborných a vedeckých prácach. Prešov: KGG PdF UPJŠ, 1997, s. 265 – 285.
KANDRÁČOVÁ, V., MICHAELI, E. 1998: Ľubotice. OÚ Ľubotice. 116 s.
KOLEKTÍV, 1977: Vlastivedný slovník obcí na Slovensku diely I-II, Veda Bratislava. 528 s., 519 s.
KOLEKTÍV, 1978: Vlastivedný slovník obcí na Slovensku diely III, Veda Bratislava. 533 s.
LUKNIŠ, M. 1946: Jakubiany. In: Sborník prác PriF Slovenskej univerzity v Bratislave – Práce Geografického ústavu. Bratislava, PriF SU, 1946, zväzok XIV., č. 2, 67 s.
LUKNIŠ, M., 1977: Geografia krajiny Jura pri Bratislave. UK, Bratislava. 211 s.

MICHALOVÁ, J., MICHAL, P. 1980: Geografia okresu Veľký Krtíš, Osveta, Bratislava, 288 s.
MLÁDEK, J. et al. 1993: Región Poprad, geografické štruktúry socioekonomických aktivít. UK, Bratislava, 205 s.
ŠIŠÁK, J. 1970: Geografia Rožňavskej kotliny a jej horskej obruby. OBZOR, Bratislava, 319 s.

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 61

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 49.18 | 39.34 | 9.84 | 1.64 | 0.0 | 0.0 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., Mgr. Imrich Sládek, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/MIN1/14 | **Course name:** Basis of Mineralogy |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:** ÚCHV/VCH/03 or ÚCHV/VCH/10 or ÚCHV/VCHU/10 or ÚCHV/ZAC2/10 or ÚCHV/VACH/10 or ÚCHV/CHG/09 or ÚCHV/ZCF/03

**Conditions for course completion:**
Verification of theoretical knowledge and recognizing minerals.
Semester project, practical test from recognizing of minerals, optional oral examination.

**Learning outcomes:**
To recognize the beauty of nature and to obtain basic knowledge from mineralogy. To familiarize students with properties of usual minerals and to recognize these minerals.

**Brief outline of the course:**
Basic terms and definitions, origin of minerals in nature. Basis of morphological and structural crystallography: characteristic properties of crystals, crystallographic laws, crystal structure, unit cells and their parameters, crystallographic systems with examples of minerals. Crystallochemistry: types of bonds and structures and their effect on the properties of minerals. Physical properties of minerals and their utilize in minerals classification. Basis of genetic and systematic mineralogy. Structure of silicates.

**Recommended literature:**
M. Košuth: Mineralógia. Elfa, s.r.o. Košice, 2001
V. Radzo: Mineralógia, Alfa Bratislava, 1987.

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 63

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 84.13 | 11.11 | 1.59 | 1.59 | 0.0 | 1.59 |

**Provides:** doc. RNDr. Ivan Potočňák, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

<table>
<tr><td colspan="6">University: P. J. Šafárik University in Košice</td></tr>
<tr><td colspan="6">Faculty: Faculty of Science</td></tr>
<tr><td colspan="2">Course ID: KPE/ MMKV/17</td><td colspan="4">Course name: Multiculturalism and Multicultural Education</td></tr>
<tr><td colspan="6">Course type, scope and the method:<br>Course type: Practice<br>Recommended course-load (hours):<br>Per week: 2 Per study period: 28<br>Course method: present</td></tr>
<tr><td colspan="6">Number of credits: 2</td></tr>
<tr><td colspan="6">Recommended semester/trimester of the course: 4.</td></tr>
<tr><td colspan="6">Course level: I.</td></tr>
<tr><td colspan="6">Prerequisities:</td></tr>
<tr><td colspan="6">Conditions for course completion:</td></tr>
<tr><td colspan="6">Learning outcomes:</td></tr>
<tr><td colspan="6">Brief outline of the course:</td></tr>
<tr><td colspan="6">Recommended literature:</td></tr>
<tr><td colspan="6">Course language:</td></tr>
<tr><td colspan="6">Course assessment<br>Total number of assessed students: 48</td></tr>
<tr><td>A</td><td>B</td><td>C</td><td>D</td><td>E</td><td>FX</td></tr>
<tr><td>31.25</td><td>27.08</td><td>37.5</td><td>2.08</td><td>2.08</td><td>0.0</td></tr>
<tr><td colspan="6">Provides: PaedDr. Janka Ferencová, PhD.</td></tr>
<tr><td colspan="6">Date of last modification: 05.02.2018</td></tr>
<tr><td colspan="6">Approved: Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.</td></tr>
</table>

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/MUSU/15 | **Course name:** Structure determination - spectroscopic methods |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 3 **Per study period:** 28 / 42
**Course method:** present

**Number of credits:** 7

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:** ÚCHV/ACHU/03 and ÚCHV/ANCHU/03 and ÚCHV/OCHU/03

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
Fundamentals of molecular spectroscopy and magnetic properties study, as powerful tools for structure determination in chemistry. Those are ultraviolet, visible, infrared and Raman spectroscopy, mass spectrometry and methods based on magnetic resonance (1H NMR, 13C NMR).

**Recommended literature:**
L.G.Wade,Jr.: Organic Chemistry. Prentice Hall International, Inc. Englewood Cliffs, New Yersey 1995.

**Course language:**

**Course assessment**
Total number of assessed students: 96

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 10.42 | 34.38 | 33.33 | 18.75 | 3.13 | 0.0 |

**Provides:** doc. RNDr. Ján Imrich, CSc., RNDr. Monika Tvrdoňová, PhD., doc. RNDr. Juraj Kuchár, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KGER/ NJKG/07 | **Course name:** Communicative Grammar in German Language |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 48

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 54.17 | 12.5 | 10.42 | 4.17 | 10.42 | 8.33 |

**Provides:** PaedDr. Ingrid Puchalová, PhD., Mgr. Barbora Molokáčová

**Date of last modification:** 25.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ OBY2/18 | **Course name:** Geography of population and settlements |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 2 **Per study period:** 28 / 28
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Evaluation of student performance is carried out by combining ongoing review during the term of examination for the period of the semester. Continuous control consists of min. 80 % of the active participation of students in teaching and successfully solving assignments. If a student does not reach required active participation of teaching and successfully does not solve the given problem can not log on to the test.

**Learning outcomes:**
The student will acquire theoretical and methodological basis of Geography of Population and Settlements. Students will acquire a basic spatial differentiation of population and settlements in the world according to basic characteristics.

**Brief outline of the course:**
Population geography as a science discipline; Trends and forecasts of the world population; Distribution of population; Natural and mechanical movement of population (natality, mortality, balance natural movement of the population, model of demographic cycle, population migration); Population structure on the basis of biological, cultural and economic characteristics;
Geography settlements as a scientific discipline; Settlement development and settlement systems; Geographical location of settlements; The structure of settlements by size, dynamics and morphology; Urban geography (definition of city, creation of city and functions cities); The hierarchy of settlements and Gravity; Urbanization (basic concepts, indicators, aspects and methods of research); Rural settlement systems (compact and scattered rural settlements and their geographical interpretation).
Seminars
Seminars during the semester are oriented to problem solving in order to practice, resp. demonstrate phenomena studied in different regional units of Slovakia, Europe or Worldwide.

**Recommended literature:**
BAŠOVSKÝ, O., MLÁDEK, J. 1989: Geografia obyvateľstva a sídel. Prírodovedecká fakulta UK, Bratislava, 221.
CHALUPA, P., TARABOVÁ, Z. 1990: Geografie obyvatelstva, demografie, geografie sídel. MU, Brno.
MATLOVIČ, R. 2001: Geografia relígií. Fakulta humanitných a prírodných vied Prešovskej univerzity v Prešove. Prešov, 375.

MLÁDEK, J. 1992: Základy geografie obyvateľstva. SPN Bratislava, 230.
MLÁDEK, J. a kol. 2006: Atlas obyvateľstva Slovenska. UK Bratislava, 168.
MLÁDEK, J., KUSENDOVÁ, D., MARENČÁKOVÁ, J., PODOLÁK, P., VAŇO, B. 2006: Demogeografická analýza Slovenska. UK Bratislava, 222.
PAVLÍK, Z., RYCHTAŘÍKOVÁ, J., ŠUBRTOVÁ, A. 1986: Základy demografie. Academia Praha.
VOTRUBEC, C. 1980: Lidská sídla, jejich typy a rozmístnění ve světe. Academia Praha.
SHORT, J. R. 1994: Lidská sídla. Velká geografická encyklopedie světa. Nakladatelský dům OP Praha

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 772

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 8.81 | 13.73 | 22.15 | 23.58 | 27.98 | 3.76 |

**Provides:** prof. RNDr. Peter Spišiak, CSc., RNDr. Janetta Nestorová-Dická, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚCHV/ OCH1b/03 | **Course name:** Organic chemistry II |
| **Course type, scope and the method:**<br>**Course type:** Lecture / Practice<br>**Recommended course-load (hours):**<br>**Per week:** 3 / 2 **Per study period:** 42 / 28<br>**Course method:** present | |
| **Number of credits:** 7 | |
| **Recommended semester/trimester of the course:** | |
| **Course level:** I. | |
| **Prerequisities:** | |
| **Conditions for course completion:**<br>Two tests at lecture in 7 and 14th week. Test max 50 points. At least 25 points required.<br>Written exam, 100 points. At least 49% of points required.<br>Final evaluation: A 90-100 pts, B 80-89 pts, C 70-79 pts, D 60-69 pts, E 50-59 pts, FX 0-49 pts | |
| **Learning outcomes:**<br>Second part of two-semester organic chemistry course. | |
| **Brief outline of the course:**<br>Reaction Mechanisms, Mechanisms of Organic Reactions, Reactive Intermediates,Ionic Reactions Radical Reactions Bond Energy Reaction Energetics Activation Energy Reaction Rates and Kinetics Thermodynamic and Chemical Stability Aromaticity Benzene and Other Aromatic Compounds Fused Benzene Ring Compounds Other Aromatic Systems Factors Required for Aromaticity Stereoisomers Chirality and Symmetry Enantiomorphism Polarimetry Optical Activity Designating the Configuration of Stereogenic Centers The Sequence Rule for Assignment of Configurations to Stereogenic Carbons Compounds Having Two or More Stereogenic Centers Stereogenic Nitrogen Fischer Projection Formulas Aldehydes & Ketones Natural Products Synthetic Preparation Properties of Aldehydes & Ketones Reversible Addition Reactions Hydration & Hemiacetal Formation Acetal Formation Imine Formation Enamine Formation Cyanohydrin Formation Irreversible Addition Reactions Complex Metal Hydrides Organometallic Reagents Carbonyl Group Modification Wolff-Kishner Reduction Clemmensen Reduction Hydrogenolysis of Thioacetals Oxidations Reactions at the a-Carbon Mechanism of Electrophilic a-Substitution The Aldol Reaction Ambident Enolate Anions Alkylation of Enolate Anions Carboxylic Acids Natural Products Related Derivatives Preparation of Carboxylic Acids Reactions of Carboxylic Acids Salt Formation Substitution of Hydroxyl Hydrogen Substitution of the Hydroxyl Group Reduction & Oxidation Carboxylic Derivatives Reactions of Carboxylic Acid Derivatives Acyl Group Substitution Mechanism Reduction Catalytic Reduction Metal Hydride Reduction Diborane Reduction Reaction with Organometallic Reagents Reactions at the a Carbon Acidity of a C-H The Claisen Condensation Synthesis Applications Carbohydrates Glucose The Structure and Configuration of Glucose Anomeric Forms of Monosaccharides Glycosides Disaccharides Polysaccharides Lipids Fatty Acids Soaps & Detergents Fats & Oils Nucleic Acids Alkaloids Terpenes | |
| **Recommended literature:** | |

1. on-line moodle.science.upjs.sk
2. Organic Chemistry, Clayden, Greeves Warren & Wothers, Oxford University Press, 2010
3. Organic Chemistry, Solomon, Willey, 2009

**Course language:**

**Course assessment**
Total number of assessed students: 571

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 11.91 | 11.38 | 16.99 | 22.07 | 34.68 | 2.98 |

**Provides:** prof. RNDr. Jozef Gonda, DrSc., doc. RNDr. Miroslava Martinková, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ OCHU/03 | **Course name:** Organic chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 3 / 1 **Per study period:** 42 / 14
**Course method:** present

**Number of credits:** 6

**Recommended semester/trimester of the course:** 2.

**Course level:** I.

**Prerequisities:** ÚCHV/VCHU/15 or ÚCHV/VCHU/14 or ÚCHV/VCHU/10 or ÚCHV/VACH/10

**Conditions for course completion:**
Two tests at lecture in 7 and 14th week. Test max 50 points. At least 25 points required.
Written exam, 100 points. At least 49% of points required.
Final evaluation: A 90-100 pts, B 80-89 pts, C 70-79 pts, D 60-69 pts, E 50-59 pts, FX 0-49 pts

**Learning outcomes:**
Basic organic chemistry course.

**Brief outline of the course:**
Chemical bonding Hybridization and Bonding Covalent bonds Double bonds and Triple Bonds Structural Formulas of Organic Molecules Polar Covalent Bonds and Electronegativity Constitutional Isomers Alkenes Electrophilic Additions Strong Brønsted Acids Lewis Acids (non-Proton Electrophiles) Electrophilic Halogen Reagents Other Electrophilic Reagents Reduction Oxidation Radical Additions Allylic Substitution Alkynes Addition Reactions Hydrogenation Electrophiles Hydration & Tautomerism Hydroboration Nucleophilile Addition & Reduction Acidity of Terminal Alkynes (Substitution of H) Alkyl Halides General Reactivity Substitution(of X) SN2 Mechanism SN1 Mechanism Elimination (of HX) Summary of Substiution vs. Elimination Substitution by Metals Elimination Reactions of Dihalides Alcohols Reactions of Alcohols Substitution of the Hydroxyl H Substitution of the Hydroxyl Group Elimination of Water Oxidation of Alcohols Reactions of Phenols Acidity of Phenols Ring Substitution of Phenols Oxidation to Quinones Aromatic compounds Electrophilic Substitution A Substitution Mechanism Reactions of Substituted Benzenes Reaction Characteristics Reactions of Disubstituted Rings Reactions of Substituent Groups Nucleophilic Substitution, Elimination & Addition Reactions Amines Basicity of Nitrogen Compounds Acidity of Nitrogen Compounds Important Reagent Bases Reactions of Amines Electrophilic Substitution at Nitrogen Preparation of 1°-Amines Preparation of 2° & 3°-Amines Reactions with Nitrous Acid Reactions of Aryl Diazonium Intermediates Elimination Reactions of Amines Oxidation States of Nitrogen Basic information: Aldehydes & Ketones Carboxylic Acids Carboxylic Derivatives Natural products

**Recommended literature:**
1. on-line ppt presentation in MOODLE, moodle science.upjs.sk
2. Organic Chemistry, Clayden, Greeves Warren & Wothers, Oxford University Press, 2010
3. Organic Chemistry, Solomon, Willey, 2009

**Course language:**

**Course assessment**
Total number of assessed students: 700

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 3.14 | 7.43 | 13.43 | 22.43 | 47.57 | 6.0 |

**Provides:** prof. RNDr. Jozef Gonda, DrSc., RNDr. Slávka Hamuľaková, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KGER/ OJPV1/07 | **Course name:** Specialised German Language - Natural Sciences 1 |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 136

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 21.32 | 22.79 | 25.0 | 22.06 | 8.09 | 0.74 |

**Provides:** Mgr. Andreas Schiestl

**Date of last modification:** 25.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPE/ OLŠ/15 | **Course name:** School Administration and Legislation |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 3., 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 168

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 35.71 | 30.36 | 22.02 | 8.33 | 2.98 | 0.6 |

**Provides:** PaedDr. Renáta Orosová, PhD.

**Date of last modification:** 23.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

# COURSE INFORMATION LETTER

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** KOP/ OPaPDV/14 | **Course name:** Civil Law and Intellectual Property Rights |
| **Course type, scope and the method:**<br>**Course type:** Lecture<br>**Recommended course-load (hours):**<br>**Per week:** 2 **Per study period:** 28<br>**Course method:** present | |
| **Number of credits:** 4 | |
| **Recommended semester/trimester of the course:** 3., 5. | |
| **Course level:** I., N | |
| **Prerequisities:** | |
| **Conditions for course completion:** | |
| **Learning outcomes:** | |
| **Brief outline of the course:** | |
| **Recommended literature:** | |
| **Course language:** | |
| **Course assessment**<br>Total number of assessed students: 67 | |

| abs | n |
|---|---|
| 94.03 | 5.97 |

| |
|---|
| **Provides:** doc. JUDr. Renáta Bačárová, PhD., LL.M., prof. JUDr. Peter Vojčík, CSc. |
| **Date of last modification:** 18.01.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

## COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/PACHU/03 | **Course name:** Practical from Inorganic Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 4 **Per study period:** 56
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 2.

**Course level:** I.

**Prerequisities:** ÚCHV/VCHU/14 or ÚCHV/VCHU/15 or ÚCHV/VCHU/10 or ÚCHV/VACH/10

**Conditions for course completion:**

**Learning outcomes:**
The practical acquirements at preparation and study of inorganic compounds and their physico-chemical properties by common laboratory techniques.

**Brief outline of the course:**
The utilization of common laboratory techniques for preparation of elements (H2, O2, Cu, Ni), oxides(CO2, Al2O3·xH2O), nitrides(Mg3N2), acids (HNO3, H3BO3), salts((NH4)2SO4, KMnO4), binary salts(NH4)Fe(SO4)2·12H2O), halides (CuCl, CuCl2·2H2O, SnI4, CuBr2) and coordination compounds ([Cr2(CH3COO)4(H2O)2], [CoCl2(en)2]Cl, [Cu(NH3)4]SO4·H2O, K3[Al(C2O4)3]·3H2O).

**Recommended literature:**
Z. Vargová, J. Kuchár: Praktikum z anorganickej chémie, Košice, 2008
M. Reháková, M. Dzurillová, V. Zeleňák, V. Urvichiarová: Laboratórna technika, PF UPJŠ, Košice, 1999

**Course language:**

**Course assessment**
Total number of assessed students: 481

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 51.77 | 27.03 | 15.18 | 2.7 | 2.29 | 1.04 |

**Provides:** doc. RNDr. Juraj Kuchár, PhD., RNDr. Martin Vavra, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/PACU/03 | **Course name:** General Course of Analytical Chemistry - Laboratory |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 4 **Per study period:** 56
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:** ÚCHV/ANCHU/03

**Conditions for course completion:**
Assessment

**Learning outcomes:**
Application of theoretical knowledge to analytical laboratory practise

**Brief outline of the course:**
Practical in qualitative and quantitative analysis. Qualitative analysis, separation by selective precipitation. Quantitative methods. Gravimetry, general principles of method. Volumetric methods. Preparation of accurate solutions. Indication of equvivalency point. Titration curves, calculations in volumetric analysis. Acidimetry, alkalimetry. Manganometry. Iodometry. Complexometry. Selected Instrumental analytical methods.

**Recommended literature:**
D.Harvey: Modern Analytical Chemistry. McGraw Hill, Boston, 2000.
D.A.Skoog: Principles of Instrumental Analysis. Saunders Col. Publishing, New York 1985.
E.Prichard: Quality in the Analytical Chemistry Laboratory, Wiley, 1995

**Course language:**

**Course assessment**
Total number of assessed students: 286

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 56.99 | 28.32 | 11.54 | 1.4 | 1.75 | 0.0 |

**Provides:** doc. Ing. Viera Vojteková, PhD., RNDr. Rastislav Serbin, PhD., RNDr. Lívia Kocúrová, PhD., RNDr. Jana Šandrejová, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/PBCHU/15 | **Course name:** Biochemistry Practical |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 4 **Per study period:** 56
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:** ÚCHV/BCHU/03

**Conditions for course completion:**
Protocols + 75 % continuous evaluation.

**Learning outcomes:**

**Brief outline of the course:**
The most important biochemical laboratory methods. The qualitative tests for amino acids and proteins. Time-dependent course of enzyme-catalyzed reaction: determination of enzymatic activity, determination of the first order rate constant, calculations of math models (examples), effect of a substrate concentration on initial rate of reaction, determination of Km and Vmax for urease. Isolation and detection of nucleic acids.

**Recommended literature:**
http://kosice.upjs.sk/~kbch/

**Course language:**

**Course assessment**
Total number of assessed students: 95

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 67.37 | 26.32 | 4.21 | 1.05 | 1.05 | 0.0 |

**Provides:** doc. RNDr. Mária Kožurková, CSc., RNDr. Nataša Tomášková, PhD., RNDr. Rastislav Varhač, PhD., RNDr. Danica Sabolová, PhD., RNDr. Eva Konkoľová, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ PCH1/00 | **Course name:** Food chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 5.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**
Students will recieve informations and knowledges about chemical substances in food, their importance and chemical changes in food during processing and storage.

**Brief outline of the course:**
The main categories of substances in the most important group of food. Aminoacids, proteins, lipids, carbohydrates. Water, minerals, low concentration anorganic compounds, vitamins. Hydrocarbons, colorants, toxic compounds, aditives. Chemical reactions in dairy products.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 256

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 60.55 | 33.98 | 5.08 | 0.0 | 0.0 | 0.39 |

**Provides:** RNDr. Ján Elečko, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** CJP/ PFAJ4/07 | **Course name:** English Language of Natural Science |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most.
Continuous assessment: 2 credit tests (presumably in weeks 6 and 13) and academic presentation in English.
In order to be admitted to the final exam, a student has to score at least 65 % as a sum of both credit tests.
The exam test results represent 50% of the final grade for the course, continuous assessment results represent the other 50% of the final grade.
The final grade for the course will be calculated as follows:
A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 and less.

**Learning outcomes:**
Enhancement of students' language skills (speaking, writing, reading and listening comprehension) in English for specific purposes and development of students' language competence (familiarization with selected phonological, lexical and syntactic phenomena), improvement of students' pragmatic competence (familiarization with selected language functions) and improvement of presentation skills at B2 level (CEFR) with focus on terminology of English for natural science.

**Brief outline of the course:**
ANGLICKÝ JAZYK PRE GEOGRAFOV:
Veda a výskum. Odbor geografia.
Planéta Zem. Naša slnečná sústava.
Zemetrasenia, Sopečná činnosť.
Svetové oceány a ľadovce.
Životné prostredie a geografia.
Počasie a klíma.
ANGLICKÝ JAZYK PRE EKOLÓGOV:
Veda a výskum. Odbor ekológia.
Životné prostredie. Znečistenie a dôsledky.
Sopečná činnosť, zemetrasenia.
Great Pacific Garbage Patch.

Globálne otepľovanie a dôsledky. Ľadovce.
Počasie a klíma. Búrky, hurikány, tsunami.
Život na Zemi. Ohrozené rastlinné a živočíšne druhy.
ANGLICKÝ JAZYK PRE BIOLÓGOV:
veda a výskum, odbor biológia.
morfológia rastlín, koreň.
stonka, list.
rozmnožovanie rastlín, kvet.
biológia človeka - telesné sústavy.
slovná zásoba z oblasti botanickej a zoologickej nomenklatúry.
ANGLICKÝ JAZYK PRE MATEMATIKOV:
Veda a výskum, odbor matematika.
čísla a tvary v matematike.
Elementárna algebra.
Elementárna geometria.
Výpočty v matematike.
Pytagoras, Pytagorova veta.
Grafy a diagramy.
Štatistika.
ANGLICKÝ JAZYK PRE FYZIKOV
Veda a výskum, odbor fyzika.
Atómy a molekuly.
Hmota a jej premeny.
Elektrina, jej využitie.
Zvuka, jeho prenos.
Svetlo.
Solárny systém.
Matematické operácie.
ANGLICKÝ JAZYK PRE CHEMIKOV:
Veda a výskum, odbor chémia.
História, Každodenná chémia.
Laboratórium a jeho vybavenie.
Periodická tabuľka.
Hmota a jej premeny.
Životné prostredie a chémia.
ANGLICKÝ JAZYK PRE INFORMATIKOV:
Veda a výskum, informatika.
Život s počítačom.
Typický PC.
Zdravie a bezpečnosť, ergonomika.
Programovanie.
Emailovanie.
Cybercrime.
Trendy budúcnosti.

**Recommended literature:**

study materials provided by the course instructor
Royds-Irmak, D.E. Beginning Scientific English. Nelson, 1975.
Velebná, B. English for Chemists. ffweb.ff.upjs.sk/vyuka//
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.

Powel, M.: Dynamic Presentations. CUP, 2010.
Armer, T.: Cambridge English for Scientists. CUP, 2011.
Wharton J.: Academic Encounters. The Natural World. CUP, 2009.
Murphy, R.: English Grammar in Use. Cambridge University Press, 1994.
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
https://worldservice/learningenglish, https://spectator.sme.sk

**Course language:**

**Course assessment**
Total number of assessed students: 2443

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 34.55 | 25.83 | 17.6 | 10.89 | 8.8 | 2.33 |

**Provides:** Mgr. Zuzana Naďová, Mgr. Lenka Klimčáková

**Date of last modification:** 06.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

# COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** CJP/ PFAJAKA/07 | **Course name:** Academic English |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** combined, present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II., N

**Prerequisities:**

**Conditions for course completion:**
Active classroom participation, 2 absences tolerated (4x45 min.) tolerated. 2 tests (5th/6th week and 12th/13th week), no retake. Minipresentation on chosen topic. Final evaluation- average assessment of tests and presentation. Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**
Seal B.: Academic Encounters, CUP, 2002
T. Armer :Cambridge English for Scientists, CUP 2011
M. McCarthy M., O´Dell F. - Academic Vocabulary in Use, CUP 2008
Zemach, D.E, Rumisek, L.A: Academic Writing, Macmillan 2005
Olsen, A. : Active Vocabulary, Pearson, 2013
www.bbclearningenglish.com
Cambridge Academic Content Dictionary, CUP, 2009

**Course language:**
English language, level B2 according to CEFR.

**Course assessment**
Total number of assessed students: 344

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 30.81 | 23.55 | 15.99 | 11.05 | 7.27 | 11.34 |

**Provides:** Mgr. Zuzana Naďová

**Date of last modification:** 06.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

# COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** CJP/ PFAJGA/07 | **Course name:** Communicative Grammar in English |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** combined, present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II., N

**Prerequisities:**

**Conditions for course completion:**
Active classroom participation (max. 2x90 min. absences tolerated). 2 test (5th/6th and 12/13th week), no retake. Final evaluation- average assessment of tests. Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less.

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**
Misztal M.: Thematic Vocabulary, Fragment, 1998
McCarthy, O'Dell: English Vocabulary in Use, 1994
Alexander L.G.: Longman English Grammar, Longman, 1988
Jones I. - Communicative Grammar Practice, CUP, 1992
Vince M.: Macmillan Grammar in Context, Macmillan, 2008
www.bbclearningenglish.com
Gráf T., Peters S.: Time to practise, Polyglot, 2007

**Course language:**

**Course assessment**
Total number of assessed students: 394

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 39.34 | 18.53 | 17.01 | 8.88 | 6.09 | 10.15 |

**Provides:** Mgr. Lenka Klimčáková

**Date of last modification:** 06.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** CJP/ PFAJKKA/07 | **Course name:** Communicative Competence in English |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** combined, present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II., N

**Prerequisities:**

**Conditions for course completion:**
Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most.
2 credit tests (presumably in weeks 6/7 and 12/13) and short academic presentations in English on selected topics.
Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.

**Learning outcomes:**
Uplatnenie a aktívne používanie svojich teoretických vedomostí v praktických komunikačných situáciách. Zdokonalenie jazykových vedomostí a zručností študenta, rečovej, pragmatickej a vecnej kompetencie, predovšetkým zlepšujú komunikáciu, schopnosťprijímať a formulovať výpovede, efektívne vyjadrovať svoje myšlienky ako aj orientovať sa v obsahovom pláne výpovede. Precvičovanie rečových intencií kontaktných (napr. pozdravy, oslovenia, pozvanie, oslovenie), informatívnych (napr. získavanie a podávanie informácií, vyjadrenie priestorových a časových vzťahov), regulačných (napr. prosba, poďakovanie, zákaz, pochvala, súhlas, nesúhlas) a hodnotiacich (napr. vyjadrenie vlastného názoru, stanoviska, želania, emócií). Výsledkom budovania praktickej jazykovej kompetencie majú byť vedomosti a zručnosti zodpovedajúce požiadavkám a kritériám dokumentu Spoločný európsky referenčný rámec pre vyučovanie jazykov.

**Brief outline of the course:**
Rodina, jej formy a problémy
Vyjadrovanie pocitov a dojmov
Dom, bývanie a budúcnosť
Formy a dialekty v anglickom jazyku
Život v meste a na vidieku
Kolokácie a idiomy, zaužívané slovné spojenia
Prázdniny a sviatky vo svete
Životné prostredie a ekológia
Výnimky zo slovosledu
Frázové slovesá a ich použitie
Charakteristiky neformálneho diškurzu

**Recommended literature:**

www.bbclearningenglish.com
McCarthy M., O'Dell F.: English Vocabulary in Use, Upper-Intermediate. CUP, 1994.
Misztal M.: Thematic Vocabulary. SPN, 1998.
Fictumova J., Ceccarelli J., Long T.: Angličtina, konverzace pro pokročilé. Barrister and Principal, 2008.
Peters S., Gráf T.: Time to practise. Polyglot, 2007.
Jones L.: Communicative Grammar Practice. CUP, 1985.
Alexander L.G.: Longman English Grammar. Longman, 1988.

**Course language:**

English language, B2 level according to CEFR

**Course assessment**

Total number of assessed students: 220

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 36.36 | 21.82 | 20.45 | 10.45 | 7.27 | 3.64 |

**Provides:** Mgr. Zuzana Naďová

**Date of last modification:** 06.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

**Course ID:** ÚCHV/PFCU/03 | **Course name:** Practical in Physical Chemistry

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 3 **Per study period:** 42
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 5.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
Approved laboratory reports.
Assessment.

**Learning outcomes:**
Theoretical principles, description of each technique and appropriate physical chemistry experiments.

**Brief outline of the course:**
Experimental verification of theoretical knowledge on thermodynamics, thermochemistry, chemical equilibria (determination of enthalpy, phase diagrams), colligative properties (cryoscopy, ebulioscopy), adsorption.
Experimental verification of theoretical knowledge on electrochemistry (conductivity, dissociation constants, activity coefficients, electromotive force of galvanic cell, Daniell cell, potentials, polarography) and chemical kinetics (determination of rate constants).

**Recommended literature:**
B.P. Levitt: Findlay´s Practical Physical Chemistry, Longman, London 1973
W.J. Moore: Physical Chemistry, Longman, London 1972
P.W. Atkins: Physical Chemistry, Oxford University Press, Oxford, New York 2002

**Course language:**

**Course assessment**
Total number of assessed students: 288

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 70.83 | 22.92 | 5.21 | 0.69 | 0.35 | 0.0 |

**Provides:** RNDr. František Kaľavský, RNDr. Andrea Morovská Turoňová, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPPaPZ/PKŽ/15 | **Course name:** Psychology of Everyday Life |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 116

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 43.1 | 14.66 | 30.17 | 8.62 | 2.59 | 0.86 |

**Provides:** Mgr. Ondrej Kalina, PhD.

**Date of last modification:** 21.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/POCHU/15 | **Course name:** Organic chemistry - Lab. |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 4 **Per study period:** 56
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 3.

**Course level:** I.

**Prerequisities:** ÚCHV/OCHU/03

**Conditions for course completion:**
Two tests 2x25 p., twelve reports 12x2 p., laboratory skills 12 p., short quizzes and questions 14 p. A 100 p. in total.
Grades: A: 91-100b, B: 81-90b, C: 71-80b, D: 61-70b, E: 51-60b, Fx: 0-50b.
Based on continuous evaluation.

**Learning outcomes:**
Students will become familiar with the basic isolation and purification methods used in a synthetic laboratory. Students should master basic laboratory technique and be able to apply the theoretical knowledge from the basic course of organic chemistry in simple synthetic projects.

**Brief outline of the course:**
Preparation, isolation, purification and identification of organic compounds. The emphasis is on gaining the experimental skills in synthesis of organic compounds, distillation, extraction, crystallization, sublimation and thin-layer chromatography.

**Recommended literature:**
1. Handout with experimental procedures http://kekule.science.upjs.sk/pochu.
2. Organic chemistry lectures.

**Course language:**

**Course assessment**
Total number of assessed students: 110

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 54.55 | 27.27 | 10.0 | 7.27 | 0.91 | 0.0 |

**Provides:** RNDr. Slávka Hamuľaková, PhD., RNDr. Mária Vilková, PhD., RNDr. Ladislav Janovec, PhD., RNDr. Ján Elečko, PhD., RNDr. Jana Špaková Raschmanová, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ POL1/18 | **Course name:** Political geography and geopolitics |
| **Course type, scope and the method:**<br>**Course type:** Lecture / Practice<br>**Recommended course-load (hours):**<br>**Per week:** 1 / 2 **Per study period:** 14 / 28<br>**Course method:** present | |
| **Number of credits:** 5 | |
| **Recommended semester/trimester of the course:** 4. | |
| **Course level:** I., II. | |
| **Prerequisities:** | |
| **Conditions for course completion:** | |
| **Learning outcomes:** | |
| **Brief outline of the course:** | |
| **Recommended literature:** | |
| **Course language:** | |

**Course assessment**

Total number of assessed students: 285

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 43.16 | 31.58 | 16.14 | 6.67 | 2.11 | 0.35 |

| |
|---|
| **Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Stela Csachová, PhD. |
| **Date of last modification:** 22.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPPaPZ/PP/15 | **Course name:** Positive Psychology |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4., 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 165

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 97.58 | 1.21 | 0.61 | 0.0 | 0.61 | 0.0 |

**Provides:** Mgr. Jozef Benka, PhD. et PhD.

**Date of last modification:** 21.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** KPPaPZ/PUDB/15 | **Course name:** Drug Addiction Prevention in University Students |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 3., 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 256

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 77.34 | 20.31 | 2.34 | 0.0 | 0.0 | 0.0 |

**Provides:** prof. PhDr. Oľga Orosová, CSc., Mgr. Marta Dobrowolska Kulanová, PhD.

**Date of last modification:** 21.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ PVS/18 | **Course name:** Population growth in Slovakia |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
The evaluation of student´s performance is implemented through a combination of current, random control during the term and the examination part within a particular period of the semester. This type of continuous control includes at least 80% of students´ active participation in teaching and successful solutions of given assignments. If a student does not follow and fullfil these two conditions, i. e. compulsory active learning part of the course, together with active participation and in addition will not solve assigned tasks successfully cannot register, assign for the examination (oral/written). If the student receives more than 51% in the written form may proceed to the oral form. If a student does not demonstrate particular knowledge during the oral examination student has to take both forms of the examination once again.

**Learning outcomes:**
The Student shall acquires deeper knowledge of the population of Slovakia in terms of time and 3-D.

**Brief outline of the course:**
Development of the population and its spatial differentiation, population Dynamics (natural, migration, the total movement); Reproduction of the population; Migration for work, Foreign and internal migration; The ageing of the population; The specificities of the Roma population in Slovakia; The educational structure of the population; Economic, social, according to the marital status of the population structure; Ethnic and religions structure of the population ; Slovakia in the EU in terms of population processes; The demographic future of Slovakia.
Seminars
Workshops during the semester are focused on filling the solution of tasks in order to practice or demonstrate the phenomena studied in the different regional units.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 119

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 64.71 | 5.04 | 10.92 | 7.56 | 8.4 | 3.36 |

| |
|---|
| **Provides:** prof. RNDr. Peter Spišiak, CSc., RNDr. Janetta Nestorová-Dická, PhD. |
| **Date of last modification:** 22.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPE/ Pg/15 | **Course name:** Pedagogy |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 3., 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 406

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 20.94 | 18.97 | 26.11 | 19.46 | 13.55 | 0.99 |

**Provides:** Mgr. Katarína Petríková, PhD.

**Date of last modification:** 23.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPPaPZ/Ps/15 | **Course name:** Psychology |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 1., 3., 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 318

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 16.04 | 11.01 | 24.53 | 23.9 | 20.75 | 3.77 |

**Provides:** prof. PhDr. Oľga Orosová, CSc., PhDr. Anna Janovská, PhD., Mgr. Jozef Benka, PhD. et PhD.

**Date of last modification:** 21.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

**Course ID:** ÚGE/ SBP1/13

**Course name:** Seminar for Bachelor Thesis I.

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 5.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Verification of acquired basic methodologic and formal procedures of the final thesis creation by presentation (70% of rating) and written examination (30%). To obtain A grade, weighted average of the both parts of examination must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain less than 50% from any of both parts of examination.

**Learning outcomes:**
Mastering basic theoretical, methodological and formal scientific procedures of bachelor thesis creation.

**Brief outline of the course:**
The content and form of selected parts of thesis writing (abstract, introduction, conclusion, etc.) Ethics and culture of writing diploma thesis, citations and references, types of sources (printed, electronic, etc.). Formal aspects of the thesis. Linguistic adjustment (terminology, stylistics, syntax, grammar, typography). Rules of presentation of the thesis. Presentation of current results and state of diploma thesis.

**Recommended literature:**
HOVORKA, D., KOMÁREK, K., CHRAPAN, J. 2011: Ako písať a komunikovať. Martin (Vydavateľstvo Osveta), 247 s.
KATUŠČÁK, D. 2008: Ako písať záverečné a kvalifikačné práce. Nitra (Enigma), 162 s.
ÚTVAR REKTORA UPJŠ (2011): Smernica č. 1/2011, Dostupné na internete: <http://www.upjs.sk/public/media/2438/smernica-1-2011.pdf>, 25 s.

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 368

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 94.84 | 3.8 | 0.54 | 0.0 | 0.82 | 0.0 |

**Provides:** prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ladislav Novotný, PhD.

| |
|---|
| **Date of last modification:** 22.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ SBP2/13 | **Course name:** Seminar for Bachelor Thesis II. |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
Verification of acquired methodological and formal procedures of the creation of bachelor thesis by the presentation of current thesis creation by presentation of own bachelor thesis (100% of rating). To obtain A grade, the rating os student's presentation must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain rating less than 50%.

**Learning outcomes:**
Acquired skills to apply theoretical, methodological and formal scientific procedures of diploma thesis creation.

**Brief outline of the course:**
The seminary is focused to the topics of individual bachelor thesis. Students present current state of their thesis, its content and its particular parts. Each bachelor thesis is discussed at scientific level.

**Recommended literature:**
HOVORKA, D., KOMÁREK, K., CHRAPAN, J. 2011: Ako písať a komunikovať. Martin (Vydavateľstvo Osveta), 247 s.
KATUŠČÁK, D. 2008: Ako písať záverečné a kvalifikačné práce. Nitra (Enigma), 162 s.
ÚTVAR REKTORA UPJŠ (2011): Smernica č. 1/2011, Dostupné na internete: <http://www.upjs.sk/public/media/2438/smernica-1-2011.pdf>, 25 s.

**Course language:**
Slovak

**Course assessment**
Total number of assessed students: 334

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 71.56 | 20.36 | 6.59 | 0.6 | 0.3 | 0.6 |

**Provides:** prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ladislav Novotný, PhD.

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/SCHM/14 | **Course name:** Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 1

**Recommended semester/trimester of the course:**

**Course level:** I.

**Prerequisities:** (ÚCHV/VCHU/10 or ÚCHV/VCHU/14 or ÚCHV/VCHU/15) and ÚCHV/ACHU/03 and ÚCHV/BCHU/03 and ÚCHV/FCHU/10 and ÚCHV/ANCHU/03 and ÚCHV/OCHU/03

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 86

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 23.26 | 38.37 | 22.09 | 10.47 | 5.81 | 0.0 |

**Provides:**

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPO/ SPKVV/15 | **Course name:** Social and Political Context of Education |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4., 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 11

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 9.09 | 0.0 | 45.45 | 36.36 | 9.09 | 0.0 |

**Provides:** Dr.h.c. prof. PhDr. Marcela Gbúrová, CSc.

**Date of last modification:** 23.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ SVG/04 | **Course name:** Student Scientific Conference in Geography |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:** 6.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**
After choosing a topic suggested by supervisors implying a geographical problem, the students will work on the topic, write a thesis and defense it before the committee.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 160

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., prof. RNDr. Peter Spišiak, CSc., RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., RNDr. Janetta Nestorová-Dická, PhD., Mgr. Marián Kulla, PhD., Ing. Katarína Bónová, PhD., RNDr. Stela Csachová, PhD.

**Date of last modification:** 20.09.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/SVK/00 | **Course name:** Students Scientific Conference (Presentation) |
|---|---|

**Course type, scope and the method:**
**Course type:**
**Recommended course-load (hours):**
**Per week: Per study period:**
**Course method:** present

**Number of credits:** 4

**Recommended semester/trimester of the course:**

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 35

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Provides:**

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** ÚGE/ TMK/15 | **Course name:** Generation of 3D landscape models |

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 4.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
During the semester, students will need to hand in the outputs of the practicals. The resulting assessment is based on the final practical skills verification and delivery of the outputs of practicals. From the practical skills verification, students must obtain at least 90 points to get the A mark, at least 80 points to get B, at least 70 points to get C, at least 60 points to get D, at least 50 points to get E. The credits shall not be granted to a student who does not hand in one or more outputs of the practicals or he/she will get less than 50 points out of 100.

**Learning outcomes:**
The main learning outcomes include theoretical and practical skills in collection and processing of 3D data and generation of 3D city models.

**Brief outline of the course:**
City GML concept, methods of collection of 3-D geospatial data, processing of 3D data and generation of virtual 3D city model, interoperability of 3D data and migration of 3D data from CAD to GIS environment, applications of 3D city models and modelling of 3D landscape phenomena, 3D cadaster.

**Recommended literature:**
ROBINSON, A. H. et al. 1995:ElementsofCartography. Wiley&sons. 674 s.
ArcGIS10Web Help. ArcGISResource Center. Environmental Research Institute. Dostupné na: http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html LONGLEY, P. A., GOODCHILD, M. F., MAGUIRE, D. J., RHIND, D. W. 2001: Geographic Information Systems and Science. John Wiley & Sons.
VOSSELMAN, G., DIJKMAN, D. (2001): 3D building model reconstruction from point clouds and ground plans. In International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, volume 34, part 3/W4, pages 37–43, Annapolis, MA, USA, 2001.

**Course language:**

**Course assessment**
Total number of assessed students: 34

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Provides:** doc. RNDr. Ján Kaňuk, PhD. | | | | | |
| **Date of last modification:** 20.09.2017 | | | | | |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. | | | | | |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** KPE/ TVE/08 | **Course name:** Theory of Education |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4., 6.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 378

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 27.25 | 36.77 | 23.81 | 7.41 | 1.85 | 2.91 |

**Provides:** Mgr. Katarína Petríková, PhD.

**Date of last modification:** 23.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

# COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚTVŠ/ TVa/11 | **Course name:** Sports Activities I. |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 1.

**Course level:** I., I.II., II.

**Prerequisities:**

**Conditions for course completion:**
Conditions for course completion:
Min. 80% of active participation in classes.

**Learning outcomes:**
Learning outcomes:
Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.

**Brief outline of the course:**
Brief outline of the course:
Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball.
In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.
In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 11672

| abs | abs-A | abs-B | abs-C | abs-D | abs-E | n | neabs |
|---|---|---|---|---|---|---|---|
| 88.42 | 0.01 | 0.0 | 0.0 | 0.0 | 0.03 | 7.59 | 3.96 |

| |
|---|
| **Provides:** Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Ing. Iveta Cimboláková, PhD. |
| **Date of last modification:** 18.08.2017 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

# COURSE INFORMATION LETTER

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚTVŠ/ TVb/11 | **Course name:** Sports Activities II. |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 2.

**Course level:** I., I.II., II.

**Prerequisities:**

**Conditions for course completion:**
Conditions for course completion:
Final assessment and active participation in classes - min. 75%.

**Learning outcomes:**
Learning outcomes:
Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.

**Brief outline of the course:**
Brief outline of the course:
Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball.
In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.
In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 10971

| abs | abs-A | abs-B | abs-C | abs-D | abs-E | n | neabs |
|---|---|---|---|---|---|---|---|
| 85.37 | 0.57 | 0.02 | 0.0 | 0.0 | 0.05 | 10.13 | 3.86 |

| |
|---|
| **Provides:** Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Ing. Iveta Cimboláková, PhD. |
| **Date of last modification:** 18.08.2017 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚTVŠ/ TVc/11 | **Course name:** Sports Activities III. |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 3.

**Course level:** I., I.II., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 6910

| abs | abs-A | abs-B | abs-C | abs-D | abs-E | n | neabs |
|---|---|---|---|---|---|---|---|
| 89.84 | 0.04 | 0.0 | 0.0 | 0.0 | 0.03 | 4.23 | 5.86 |

**Provides:** Mgr. Marcel Čurgali, Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Ing. Iveta Cimboláková, PhD.

**Date of last modification:** 18.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚTVŠ/ TVd/11 | **Course name:** Sports Activities IV. |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 4.

**Course level:** I., I.II., II.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 5045

| abs | abs-A | abs-B | abs-C | abs-D | abs-E | n | neabs |
|---|---|---|---|---|---|---|---|
| 85.09 | 0.3 | 0.04 | 0.0 | 0.0 | 0.0 | 6.82 | 7.75 |

**Provides:** Mgr. Marcel Čurgali, Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Ing. Iveta Cimboláková, PhD.

**Date of last modification:** 18.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ UECH/03 | **Course name:** Introduction to Environmental Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 2 / 1 **Per study period:** 28 / 14
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 3.

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
Oral examination

**Learning outcomes:**
Introduction to topics in environmental chemistry and basic procedures applied for environmental protection.

**Brief outline of the course:**
Introduction to Environmental Chemistry
Chemical aspects of pollution and environmental problems. Composition and behavior of the atmosphere. Energy balance of the Earth and climate changes. Principles of photochemistry, photoprocesses in the atmosphere. Petroleum, hydrocarbons and coal (characteristics, sources and environmental pollution). Soaps, polymers and synthetic surfactants. Haloorganics and pesticides. Environmental chemistry of some important elements (C, N, S, P, halogens, biologically important metals ...). Environmental chemistry in aqueous media. Aqueous systems, parameters, cycles and their protection. The Earth´s crust (rocks, minerals, soils). Natural and artificial radioactivity, utilization. Energy and energy sources (fossil fuels, nuclear, geothermal, solar energy, wind and water energy). Solid waste disposal and recycling.

**Recommended literature:**
1. Gary W. van Loon, Stephen J. Duffy : Environmental Chemistry - A Global Perspective, Oxford University Press, Oxford 2003
2. R.A. Bailey, H.M. Clark, J.P. Ferris, S. Krause, R.L. Strong : Chemistry of the Environment, Academic Press, San Diego 2002
3. G. Schwedt: The Essential Guide to Environmental Chemistry, Wiley and Sons, London 2001
4. R.N. Reeve, J.D. Barnes: General Environmental Chemistry, Wiley, London 1994
5. G. Burton, J. Holman, G. Pilling, D. Waddington: Chemical Storylines, Heinemann, Oxford, London 1994
6. www

**Course language:**

**Course assessment**
Total number of assessed students: 209

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 48.8 | 20.57 | 15.79 | 8.61 | 6.22 | 0.0 |
| **Provides:** doc. RNDr. Andrea Straková Fedorková, PhD. | | | | | |
| **Date of last modification:** 21.09.2017 | | | | | |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. | | | | | |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ UGIS/15 | **Course name:** Introduction to Geographic Information Systems |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week:** 2 **Per study period:** 28
**Course method:** present

**Number of credits:** 3

**Recommended semester/trimester of the course:** 2.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**
During the semester, students will need to hand in the outputs of the practicals. The resulting assessment is based on the final practical skills verification and delivery of the outputs of practicals. From the practical skills verification, students must obtain at least 90 points to get the A mark, at least 80 points to get B, at least 70 points to get C, at least 60 points to get D, at least 50 points to get E. The credits shall not be granted to a student who does not hand in one or more outputs of the practicals or he/she will get less than 50 points out of 100.

**Learning outcomes:**
The main learning outcomes include understanding of GIS terminology, practical skills in basic geodata processing in GIS software. In particular, the skills involve data edtiting and creation of map layouts.

**Brief outline of the course:**
- Basic GIS terminology (eg. geodata layer, geodata formats, structure of GIS, graphics map elements, attribute table, structure of relational databases)
- Basic control elements of GIS software (add and configure a data layer and properties, zooming, adjusting color data layer, display and basic work with attribute tables)
- Prepare and connect an external database with the data layer
- Set the legend (selection of cartographic methods of spatial information)
- Creating map layouts and advanced graphics tools for creating map layouts

**Recommended literature:**
BOLTIŽIAR M. 2008: Geografické informačné systémy pre geografov I. Univerzita Konštantína Filozofa v Nitre, Fakulta Prírodných vied. 120 s.
BOLTIŽIAR, M. VOJTEK M. 2009. Geografické informačné systémy pre geografov II. Univerzita Konštantína Filozofa v Nitre, Fakulta Prírodných vied. 140 s.
MICHAEL D. KENNEDY. 2013:Introducing Geographic Information Systems with ArcGIS: A Workbook Approach to Learning GIS, 3rd Edition. Wiley. 672 p.
LAW M, COLLINS A. 2013:Getting to Know ArcGIS for Desktop. Edition 3. Esri Press. 768 p.

**Course language:**

**Course assessment**
Total number of assessed students: 806

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 11.54 | 12.53 | 26.67 | 24.69 | 22.08 | 2.48 |
| **Provides:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Ján Šašak | | | | | |
| **Date of last modification:** 22.02.2018 | | | | | |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. | | | | | |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ UGP/18 | **Course name:** Introduction to Geography and Planetary Geography |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 1 / 1 **Per study period:** 14 / 14
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 370

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 37.84 | 21.08 | 19.46 | 14.59 | 6.76 | 0.27 |

**Provides:** prof. Mgr. Jaroslav Hofierka, PhD., prof. Ing. Vladimír Sedlák, PhD., Mgr. Štefan Kolečanský

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

# COURSE INFORMATION LETTER

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** Dek. PF UPJŠ/USPV/13 | **Course name:** Introduction to Study of Sciences |
| **Course type, scope and the method:**<br>**Course type:** Lecture / Practice<br>**Recommended course-load (hours):**<br>**Per week: Per study period:** 12s / 3d<br>**Course method:** present | |
| **Number of credits:** 2 | |
| **Recommended semester/trimester of the course:** 1. | |
| **Course level:** I. | |
| **Prerequisities:** | |
| **Conditions for course completion:** | |
| **Learning outcomes:** | |
| **Brief outline of the course:** | |
| **Recommended literature:** | |
| **Course language:** | |
| **Course assessment**<br>Total number of assessed students: 1356 | |

| abs | n |
|---|---|
| 88.86 | 11.14 |

| |
|---|
| **Provides:** |
| **Date of last modification:** 19.02.2018 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚCHV/ VCHU/15 | **Course name:** General Chemistry |
|---|---|

**Course type, scope and the method:**
**Course type:** Lecture / Practice
**Recommended course-load (hours):**
**Per week:** 4 / 2 **Per study period:** 56 / 28
**Course method:** present

**Number of credits:** 7

**Recommended semester/trimester of the course:** 1.

**Course level:** I.

**Prerequisities:** ÚCHV/CHV1/99

**Conditions for course completion:**
Written test in the middle and the end of the semester.
Oral examination.

**Learning outcomes:**
To provide students with knowledge of atoms and molecules their electronic structure, theories of chemical bonds, physical properties of elements and compounds.

**Brief outline of the course:**
Main terms used in chemistry. Atoms – models of atoms, electron configuration, chemical periodicity and its effect on the properties of elements, radioactivity. Chemical bonds and intermolecular interactions. Chemical structure and physical properties of matter. State of matter. Solutions. Chemical equilibrium. Basis of chemical thermodynamics and chemical kinetics. Classification of chemical reactions. Electrochemistry.

**Recommended literature:**
1. Atkins P., Jones L.: Chemical Principles, 2nd ed., Freeman, New York 2002.
2. Russel J.B.: General Chemistry, 2nd ed., McGraw Hill, London 1992.

**Course language:**

**Course assessment**
Total number of assessed students: 150

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 16.0 | 24.0 | 39.33 | 12.67 | 8.0 | 0.0 |

**Provides:** prof. RNDr. Vladimír Zeleňák, PhD.

**Date of last modification:** 26.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

| | |
|---|---|
| **University:** P. J. Šafárik University in Košice | |
| **Faculty:** Faculty of Science | |
| **Course ID:** KFaDF/ VKFV/07 | **Course name:** Selected Topics in Philosophy of Education (General Introduction) |
| **Course type, scope and the method:**<br>**Course type:**<br>**Recommended course-load (hours):**<br>**Per week: Per study period:**<br>**Course method:** present | |
| **Number of credits:** 2 | |
| **Recommended semester/trimester of the course:** 3., 5. | |
| **Course level:** I. | |
| **Prerequisities:** KFaDF/DF1/05 | |
| **Conditions for course completion:** | |
| **Learning outcomes:** | |
| **Brief outline of the course:** | |
| **Recommended literature:** | |
| **Course language:** | |

**Course assessment**

Total number of assessed students: 0

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| |
|---|
| **Provides:** doc. PhDr. Pavol Tholt, PhD., mim. prof. |
| **Date of last modification:** 23.08.2017 |
| **Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc. |

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚGE/ ZAE1/18 | **Course name:** International Excursion 1 |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 10d
**Course method:** present

**Number of credits:** 5

**Recommended semester/trimester of the course:** 4.

**Course level:** I.

**Prerequisities:**

**Conditions for course completion:**

**Learning outcomes:**

**Brief outline of the course:**

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 5

| A | B | C | D | E | FX |
|---|---|---|---|---|---|
| 20.0 | 0.0 | 40.0 | 20.0 | 20.0 | 0.0 |

**Provides:**

**Date of last modification:** 22.02.2018

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.

**COURSE INFORMATION LETTER**

**University:** P. J. Šafárik University in Košice

**Faculty:** Faculty of Science

| **Course ID:** ÚTVŠ/ ÚTVŠ/CM/13 | **Course name:** Seaside Aerobic Exercise |
|---|---|

**Course type, scope and the method:**
**Course type:** Practice
**Recommended course-load (hours):**
**Per week: Per study period:** 36s
**Course method:** present

**Number of credits:** 2

**Recommended semester/trimester of the course:**

**Course level:** I., II.

**Prerequisities:**

**Conditions for course completion:**
Conditions for course completion:
Attendance

**Learning outcomes:**
Learning outcomes:
Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.

**Brief outline of the course:**
Brief outline of the course:
1. Basics of seaside aerobics
2. Morning exercises
3. Pilates and its application in seaside conditions
4. Exercises for the spine
5. Yoga basics
6. Sport as a part of leisure time
7. Application of projects of productive spending of leisure time for different age and social groups (children, young people, elderly)
8. Application of seaside cultural and art-oriented activities in leisure time

**Recommended literature:**

**Course language:**

**Course assessment**
Total number of assessed students: 33

| abs | n |
|---|---|
| 12.12 | 87.88 |

**Provides:** Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.

**Date of last modification:** 18.08.2017

**Approved:** Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.Guaranteedoc. RNDr. Zdenko Hochmuth, CSc.