CONTENT

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 ECTS 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.

Notes:

Course assessment
Total number of assessed students: 355

A	B	C	D	E	FX
31.55	23.1	15.77	10.7	7.04	11.83

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 04.10.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ALG3b/10	**Course name:** Algebra II for informaticians and physicists

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 ECTS credits: 7

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/ALGa/10

Conditions for course completion:
Exam

Learning outcomes:
To provide deeper knowledge on vector spaces, linear transformations and Euclidean spaces.

Brief outline of the course:
Vector spaces, subspaces. A basis, a dimension and a characterization of n-dimensional vector spaces. The rank of a matrix. Linear transformations and their matrices. Operations with linear tranformations, matrices of sums and compositions of linear tranformations. Regular linear transformations, regular matrices. Similar matrices. Characteristic vectors and characteristic values of linear transformations.
Affine spaces, subspaces and their positions. Euclidean spaces, the distance of subspaces. Conics and quadrics.

Recommended literature:
A. F. Beardon: Algebra and Geometry, Cambridge University Press, 2005
G. Birkhoff, S. Mac Lane: A Survey of Modern Algebra, New York 1965

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 351

A	B	C	D	E	FX
11.68	9.4	9.97	14.81	39.6	14.53

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Mária Maceková, PhD.

Date of last modification: 26.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ASU1/15	**Course name:** Algorithms and data structures
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 ECTS credits: 4	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities: (ÚINF/PAZ1a/15 or ÚINF/ePAZ1a/15) and (ÚINF/PAZ1b/15 or ÚINF/ ePAZ1b/15)	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 125

A	B	C	D	E	FX
12.8	6.4	17.6	23.2	36.8	3.2

Provides: RNDr. Rastislav Krivoš-Belluš, PhD.
Date of last modification: 03.05.2015
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 208

A	B	C	D	E	FX
64.9	30.77	1.44	0.96	0.48	1.44

Provides: PaedDr. Renáta Orosová, PhD., Mgr. Katarína Petríková, PhD.

Date of last modification: 25.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/APS1/15	**Course name:** Applied probability and statistics

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 ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Acquired basic concepts and techniques of probability theory, statistics and corresponding software.

Brief outline of the course:
Events, probability. Laws of probability distributions, characteristics of location, variability and dependency. Samples, estimates and tests of hypotheses. Modeling of dependencies, noise and smoothing. Bayes theory of decision. Pseudorandom values and Monte Carlo method.

Recommended literature:
- Cs. Török: Úvod do teórie pravdepodobnosti a matematickej štatistiky, Košice, 1992
- M.R.Spiegel, J.J.Schiller, R.A.Srinivasan, Probability and Statistics, McGraw Hill, 2009
- J. Maindonald, W.J. Braun, Data Analysis and Graphics Using R – an Example-Based Approach, CAMBRIDGE UNIVERSITY PRESS, 2010

Course language:

Notes:

Course assessment
Total number of assessed students: 61

A	B	C	D	E	FX
14.75	19.67	22.95	11.48	29.51	1.64

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ AFJ1a/15	**Course name:** Automata and formal languages

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 ECTS credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To provide theoretical background for studying computer science in general, by giving the necessary knowledge in theory of automata.

Brief outline of the course:
Chomsky hierarchy of grammars and languages. Finite-state transducers and mapping, construction of a reduced automaton. Finite-state acceptors, nondeterministic acceptors, regular expressions. Closure properties of regular languages. Context-free grammars, Chomsky and Greibach normal forms. Pushdown automata, Pumping lemma. Closure properties of context-free languages.

Recommended literature:
J.E. Hopcroft, R.Motwani, J.D. Ullman: Introduction to automata theory, languages, and computation, Addison-Wesley, 2001.
J. Shallit: A second course in formal languages and automata theory, Cambridge University press, 2009.
M. Sipser: Introduction to the theory of computation, Thomson Course Technology, 2006.

Course language:

Notes:

Course assessment
Total number of assessed students: 821

A	B	C	D	E	FX
25.33	17.9	23.87	18.03	9.74	5.12

Provides: Mgr. Alexander Szabari, PhD., prof. RNDr. Viliam Geffert, DrSc.

Date of last modification: 24.08.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/AFJ1b/15	**Course name:** Automata and formal languages

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 ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚINF/AFJ1a/15

Conditions for course completion:
Test and oral examination.

Learning outcomes:
To provide theoretical background for studying computer science in general, by giving the necessary knowledge in theory of automata.

Brief outline of the course:
Chomsky and Greibach normal forms of context free gramars. Pushdown automata. Pumping lemma. Closure properties of context free and deterministic context free languages. Context sensitive grammars and linearly-bounded Turing machines. Phrase-structure grammars and Turing machines. Post correspondence problem. Undecidable problems in the theory of formal languages.

Recommended literature:
J.E. Hopcroft, R.Motwani, J.D. Ullman: Introduction to automata theory, languages, and computation, Addison-Wesley, 2001.
J. Shallit: A second course in formal languages and automata theory, Cambridge University press, 2009.
M. Sipser: Introduction to the theory of computation, Thomson Course Technology, 2006.

Course language:

Notes:

Course assessment
Total number of assessed students: 550

A	B	C	D	E	FX
38.36	15.45	19.64	17.64	6.18	2.73

Provides: prof. RNDr. Viliam Geffert, DrSc., Mgr. Alexander Szabari, PhD., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 01.06.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ 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 ECTS 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:	
Notes:	
Course assessment Total number of assessed students: 2	
abs	n
100.0	0.0
Provides:	
Date of last modification:	
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS 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:	
Notes:	
Course assessment Total number of assessed students: 84	

abs	n
96.43	3.57

Provides:
Date of last modification: 03.05.2015
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 114

A	B	C	D	E	FX
35.96	30.7	15.79	9.65	7.02	0.88

Provides:

Date of last modification: 31.07.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 81

A	B	C	D	E	FX
45.68	24.69	16.05	8.64	4.94	0.0

Provides:

Date of last modification: 09.01.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ SMG/10	**Course name:** Basic statistics for 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 ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Project and tests durind the semester.
Given at the basis of partial examination and final test.

Learning outcomes:
To understand basics of descriptive and inferential statistics used in natural sciences.

Brief outline of the course:
Data types. Frequencies. Measures of central tendency, variability and concentration. Quantiles. Basic theoretical probability distributions. Point and interval estimation. Basic hypothesis tests. Correlation and regression analysis.

Recommended literature:
Wonnacott, Wonnacott: Introductory Statistics, Wiley 1977
Rogerson P.: Statistical methods for geography, SAGE Publications, London, 2001

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 440

A	B	C	D	E	FX
4.32	8.41	17.73	31.14	30.68	7.73

Provides: RNDr. Daniel Klein, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

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: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 1470

A	B	C	D	E	FX
31.56	23.33	17.41	17.55	9.59	0.54

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS credits: 5

Recommended semester/trimester of the course: 2.

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:

Notes:

Course assessment
Total number of assessed students: 384

A	B	C	D	E	FX
11.98	21.88	20.83	20.31	19.79	5.21

Provides: doc. RNDr. Ján Kaňuk, PhD., prof. Ing. Vladimír Sedlák, PhD.

Date of last modification: 22.01.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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: **Course type:** Lecture **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS 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:	
Notes:	
Course assessment Total number of assessed students: 81	

abs	n
93.83	6.17

Provides: doc. JUDr. Renáta Bačárová, PhD., LL.M., prof. JUDr. Peter Vojčík, CSc.
Date of last modification: 10.09.2018
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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

Notes:

Course assessment

Total number of assessed students: 237

A	B	C	D	E	FX
38.4	22.36	19.41	9.7	6.75	3.38

Provides: Mgr. Barbara Mitríková

Date of last modification: 11.02.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/ NJKK/07	**Course name:** Communicative Competence 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 44

A	B	C	D	E	FX
59.09	13.64	6.82	4.55	13.64	2.27

Provides: Mgr. Eva Černáková, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:
Vince M.: Macmillan Grammar in Context, Macmillan, 2008
McCarthy, O'Dell: English Vocabulary in Use, CUP, 1994
C. Oxengen, C. Latham-Koenig: New English File Advanced, Oxford 2010
Misztal M.: Thematic Vocabulary, Fragment, 1998
www.bbclearningenglish.com
ted.com/talks

Course language:

Notes:

Course assessment
Total number of assessed students: 406

A	B	C	D	E	FX
39.66	18.97	16.75	8.62	5.91	10.1

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 14.09.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 50

A	B	C	D	E	FX
56.0	12.0	10.0	4.0	10.0	8.0

Provides: PaedDr. Ingrid Puchalová, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:
At the beginning of the semester, students choose a region from provided list. During the semester, they elaborate presentation reflecting formal and content requirements explained by teacher at the beginning of the semester. This part constitute 50% of total total evaluation. Another 10% represents the activity at the seminars. Remaining 40 % of evaluation is represented by written verification of acquired knowledge. Evaluation of all - the presentation, activity and written verification must reach at least 50% to complete the course. To get an A grade, it is necessary to obtain at least 90% of weighted average. 80% to grade B, 70% to C, 60% to D, and at least 50% to grade E.

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

Notes:

Course assessment
Total number of assessed students: 485

A	B	C	D	E	FX
27.84	36.08	22.47	8.25	4.74	0.62

Provides: Mgr. Ladislav Novotný, PhD.

Date of last modification: 01.04.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/TVY/15	**Course name:** Computability theory

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 ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide theoretical background for studying computer science in general, by familiarising students with basic knowledge of the theory of computability.

Brief outline of the course:
Turing machine as a formalisation of the notion of an algorithm. Partial recursive functions. Kleene's normal form theorem. The equivalences of the notion of a function calculable by a Turing machine, partial recursive and calculable by a computer program. Algorithmical undecidability of the halting problem of a Turing machine and a computer program.

Recommended literature:
MACHTEY, M. and YOUNG, P.: An Introduction to the General Theory of Algorithms, North--Holland, Amsterdam 1978.
BRIDGES, D. S.: Computability, A Mathematical Sketch book, Springer--Verlag 1994

Course language:

Notes:

Course assessment
Total number of assessed students: 262

A	B	C	D	E	FX
44.27	12.21	13.74	6.11	6.49	17.18

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PSIN/15	**Course name:** Computer network Internet

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 ECTS credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15 or ÚINF/ePAZ1a/15 or ÚINF/PRG1/15

Conditions for course completion:
Activity at excercises (max 18 points), home work (max 18 points), test (max 30 points).
Verbal exam (min 25 points, max 50 points). Required minimum for passing the course is 64 points.

Learning outcomes:
To understand ISO OSI reference model for network communication, to analyze communication channels parameters, to understand different access methods, to be familiar with the function of center network devices (hub, switch, router), to understand IP protocol, IP addresses and the transfer of internet packets, to understand reliable data transfer of the TCP protocol, to be able to use Sockets in won application, to know basic application protocols.

Brief outline of the course:
1. Introduction to computer networks, internet connection types, delay and loss in packet-switched networks, ISO OSI reference model and TCP/IP protocols family.
2. Application layer: Web and HTTP, protocol FTP ,e-mail and SMTP, POP3, IMAP,
3. Application layer: domain names and DNS, Peer-to-peer applications. Security in computer networks.
4. Transport layer: services, multiplexing and demultiplexing, protocol UDP, reliable data transfer
5. Transport layer: connection oriented transport protocol TCP, flow and congestion control.
6. Network Layer: Internet protocol IPv4, virtual circuit and datagram networks, packet fragmentation, routing table, application protocol DHCP
7. Network Layer: network address translation NAT, ICMP protocol, internet protocol IPv6
8. Network Layer: routing algorithms and protocols, broadcast and multicast routing
9. Link layer: error detection, multiple access methods CSMA/CD and CSMA/CA, Ethernet, frames, protocols ARP and RARP, link layer addressing
10. Link Layer and wireless and mobile networks: hub, switch, virtual LAN, 802.11 Wireless LAN, Bluetooth 802.15, WiMAX 802.16, Mobile IP, mobility in GSM
11. Physical Layer: Communication channels parameters, digital and analog encoding.

Recommended literature:
1. J. F. Kurose, Keith W. Ross: Computer Networking: A Top-Down Approach, 7. edition, 2016
2. A. S. Tanenbaum: Computer Networks, 5. edition, Pearson, 2010
3. W. Stallings: Local and Metropolitan Area Networks, Prentice Hall, 2000

4. E. Comer, R.E. Droms: Computer Networks and Internets, Prentice Hall, 2003
5. W. R. Stevens: TCP/IP Illustrated, Vol.1: The Protocols, Addison-Wesley, 1994

Course language:

Notes:

Course assessment
Total number of assessed students: 743

A	B	C	D	E	FX
9.69	5.11	11.84	16.42	37.01	19.92

Provides: RNDr. Peter Gurský, PhD.

Date of last modification: 06.02.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ KRS/15	**Course name:** Cryptographic systems and their applications

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 ECTS credits: 6

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:

Notes:

Course assessment
Total number of assessed students: 106

A	B	C	D	E	FX
13.21	9.43	12.26	12.26	33.96	18.87

Provides: doc. RNDr. Stanislav Krajči, PhD., RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DBS1a/15	**Course name:** Database 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 ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Tests, assignments.

Learning outcomes:
Acquired basic concepts and techniques of relational database theory and a corresponding software.

Brief outline of the course:
Relational DB, SQL, Filtration, Grouping and Aggregation, Join, Three-Value Logic.
Data and database models, database design, integrity, ER diagrams.
DWH data warehouses, data cubes, pivot. Data science. Normalization 1.

Recommended literature:
- J. ULLMAN: Principles of database and knowledge – base systems, Comp. Sci. Press., 1988
- R. Ramakrishnan, J. Gehrke, Database Management Systems, McGraw-Hill, 2003
- HENDERSON, K.: The Guru's Guide to Transact SQL, Addison Wesley Professional, 2000

Course language:

Notes:

Course assessment
Total number of assessed students: 829

A	B	C	D	E	FX
10.98	9.17	17.73	22.56	32.45	7.12

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 26.02.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/DBS1b/15	**Course name:** Database 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 ECTS credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚINF/DBS1a/15 or ÚINF/DBdi/15

Conditions for course completion:
Tests, assignments.

Learning outcomes:
Advanced techniques of relational databases and theoretical fundamentals of DB normalization and relational algebra. NoSQL

Brief outline of the course:
Stored procedures, functions. Triggers. Views. CTE, recursion and transitive closure.
Set operations. Window functions. Transactions. Cursors. B-trees and indexes. XML, JSON.
Relational algebra. Functional Dependencies and Essential Tuple NF.
Big Data and NoSQL, MongoDB, CRUD and Cursors, Aggregations and Indexes, Replication and Sharding.

Recommended literature:
- K. Chodorow, MongoDB: The Definitive Guide, O'Reilly, second edition, 2013
- Date C.J., Database Design and Relational Theory, O'Reilly, 2012
- Itzik Ben-Gan, Microsoft SQL Server, 2012 T-SQL Fundamentals, O'Reilly, 2012
- L. Davidson, J.M. Moss, Pro SQL Server 2012 Relational database Design and Implementation, APRESS, 2012

Course language:

Notes:
If necessary, teaching, mid-term and final evaluation will be by distance form.

Course assessment
Total number of assessed students: 687

A	B	C	D	E	FX
10.33	8.3	11.5	23.44	35.81	10.63

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 30.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 318

A	B	C	D	E	FX
78.62	17.92	2.52	0.94	0.0	0.0

Provides: Mgr. Marianna Berinšterová, PhD., prof. PhDr. Oľga Orosová, CSc.

Date of last modification: 06.09.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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: 43

A	B	C	D	E	FX
58.14	23.26	16.28	0.0	2.33	0.0

Provides: doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
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.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
https://worldservice/learningenglish, https://spectator.sme.sk
www.isllibrary.com

Course language:

Notes:

Course assessment
Total number of assessed students: 2582

A	B	C	D	E	FX
36.91	25.17	17.04	10.3	8.37	2.21

Provides: PaedDr. Gabriela Bednáriková, Mgr. Zuzana Naďová, Mgr. Oľga Lešková, PhDr. Marianna Škultétyová

Date of last modification: 08.02.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ BSSMI/15	**Course name:** Essentials of Informatics
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 1	
Recommended semester/trimester of the course:	
Course level: I.	
Prerequisities: ÚINF/PSIN/15 and ÚINF/PAZ1b/15 and ÚINF/OSY1/15 and ÚINF/AFJ1a/15 and ÚINF/SLO1a/15	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 5

A	B	C	D	E	FX
20.0	20.0	0.0	0.0	60.0	0.0

Provides:
Date of last modification: 16.06.2017
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 64

A	B	C	D	E	FX
98.44	1.56	0.0	0.0	0.0	0.0

Provides: RNDr. Dušan Barabas, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GEP2/13	**Course name:** Fundamentals of Geology for Geographers

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 ECTS credits: 7

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:

Notes:

Course assessment
Total number of assessed students: 948

A	B	C	D	E	FX
7.38	15.08	32.07	28.06	11.92	5.49

Provides: doc. RNDr. Zdenko Hochmuth, CSc., Ing. Katarína Bónová, PhD., Mgr. Veronika Straková

Date of last modification: 08.09.2016

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 659

A	B	C	D	E	FX
5.01	12.59	20.33	24.28	35.51	2.28

Provides: doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Dušan Barabas, CSc., Mgr. Veronika Straková

Date of last modification: 16.09.2017

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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

Notes:

Course assessment
Total number of assessed students: 330

A	B	C	D	E	FX
30.0	24.55	25.45	13.33	6.67	0.0

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

Date of last modification: 16.09.2017

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 120

A	B	C	D	E	FX
16.67	20.0	25.83	16.67	20.0	0.83

Provides:

Date of last modification: 26.02.2016

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/GVS/15	**Course name:** Geography of Public Administration

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 ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
active participation, works during semester, final test. The student is awarded a grade provided they attend the classes regularly, submit and present the seminar work and write a final test with a value 50 % at least - grade E.

Learning outcomes:

Brief outline of the course:
public administration (PA), system of PA in Slovakia and models of public administration, history of public administration on the territory of Slovakia, division of PA - state government, self-government - local and regional, financial aspects of local self-government untis, intermunicipal cooperation - microregions, common communal authorities, local action group, local government reform - Slovakia and other European countries, the multilevel city self-government - the city of Košice, regional self-government, territorial-administrative division, system of public administration in model European states.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 228

A	B	C	D	E	FX
22.81	33.33	19.74	14.91	8.77	0.44

Provides: prof. RNDr. Peter Spišiak, CSc., RNDr. Stela Csachová, PhD.

Date of last modification: 06.08.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ MG/14	**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 ECTS credits: 3

Recommended semester/trimester of the course: 4.

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: 60

A	B	C	D	E	FX
55.0	33.33	5.0	5.0	1.67	0.0

Provides: prof. Ing. Vladimír Sedlák, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ OBY2/03	**Course name:** Geography of population and settlements

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 ECTS credits: 4

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:
BAČÍK, M. 2015: Základy demogeografie. VERBUM – vydavateľstvo KU Ružomberok. 230 s.
BAŠOVSKÝ, O., MLÁDEK, J. 1989: Geografia obyvateľstva a sídel. Prírodovedecká fakulta UK, Bratislava, 221s.
BLEHA, B., VAŇO, B., BAČÍK, V. (ed) 2014: Demografický atlas Slovenskej Republiky. Prírodovedecká fakulta UK Bratislava a Inštitút informatiky a štatistiky. Geografika, 163 s.

BLEHA, B., NOVÁKOVÁ, G. 2010: Praktikum demogeografie a demografie 1. Geografika, Bratislava, 138s.
HALÁS, M., BRYCHTOVÁ, Š., FŇUKAL, M. 2013: Základy humánní geografie 1: Geografie obyvatelstva a sídel. Univerzita Palackého v Olomovci, Přír. F. 101s. Online verzia: http:// distgeo.upol.cz/uploads/vyuka/skripta-halas-akol-1.pdf
MLÁDEK, J. 1992: Základy geografie obyvateľstva. SPN Bratislava, 230s.
MLÁDEK, J. a kol. 2006: Atlas obyvateľstva Slovenska. UK Bratislava, 168s.
MLÁDEK, J., KUSENDOVÁ, D., MARENČÁKOVÁ, J., PODOLÁK, P., VAŇO, B. 2006: Demogeografická analýza Slovenska. UK Bratislava, 222s.
ROUBÍČEK, V. 1997: Úvod do demografie. CODEX Bohemia. 352s.
SHORT, J. R. 1994: Lidská sídla. Velká geografická encyklopedie světa. Nakladatelský dům OP Praha
TOUŠEK, V., KUNC, J., VYSTOUPIL, J. a kol. 2008: Ekonomická a sociální geografie. Plzeň: Aleš Čeněk, 2008. 411 s.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 656

A	B	C	D	E	FX
8.84	14.79	22.26	24.09	26.68	3.35

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

Date of last modification: 16.09.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 405

A	B	C	D	E	FX
79.26	15.56	3.21	0.0	0.0	1.98

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

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GEM2/05	**Course name:** Geomorphology

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 ECTS credits: 7

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:

Notes:

Course assessment
Total number of assessed students: 1126

A	B	C	D	E	FX
8.97	21.05	20.78	16.7	21.76	10.75

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

Date of last modification: 20.09.2016

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ NGS/06	**Course name:** German geographical seminar

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 ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:
On the basis of part-time works, 5 in total (á 20 points), the student will receive the end evaluation of the subject. For each work he should aquire minimal 11 points, so 55 points in total.

Learning outcomes:
After the subject attendance the student should be able to communicate with proffesional german terminology in writing and oral presentation.

Brief outline of the course:
The academic geographical terminology on particular topics of physical and human geography will be concerned. The world professionals of geography in the past and present. The system of university studies in Germany, German geographical periodicals, monographs. Geography of Germany.

Recommended literature:
BAUER, J., ENGLERT, W., MEIER, U., MORGENEYER, F., WALDECK, W., 2002: Physische Geographie kompakt. Spektrum Akademischer Verlag Heidelberg. 192 s.
HOLLERBACH, E., NESS, N., 2002: Rhein- von Mainz bis Koeln. Rahmel - VerlagGmbH, Pulheim. 96 s.
KOLEKTIV, 2004: Deutschland. Verlag Karl Baedecker Ostfildern. 1182 s.
KUBALLA, S., 2001: Unbekanntes Deutschland. ADAC Verlag GmbH Munchen. 432 s.
STRAHLER, H.A., STRAHLER, N.A., 1999: Physische Geographie. Verlag Eugen Ulmer Stuttgart. 294 s.
ZEPP, H., MÜLLER, M.J., 1999: Landschaftsökologie Erfassungsstandards. Flensburg. 312 s.

Course language:
slovak, german

Notes:

Course assessment
Total number of assessed students: 14

A	B	C	D	E	FX
64.29	21.43	0.0	0.0	7.14	7.14

Provides: RNDr. Alena Gessert, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GNG/15	**Course name:** Graphic tools in geography

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 ECTS credits: 3

Recommended semester/trimester of the course: 4.

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 practical skills mainly in software COREL Graphics Suite focusing on procces vector and raster data to produce and edite map layouts, pictures using in geograpfhical research and teaching geography.

Brief outline of the course:
Introduction to the exercises, criteria of assessment, recommended literature, explanation of the main principle of vector and raster graphics, graphic formats (JPG, TIF, BMP, PNG), adjustment of the image size. Raster graphics: joining of maps into a single unit. Raster graphics: drawing, text editing. Image Adjustment for publication, fill in missing picture elements, working with a mask, retouch. Vector graphics: manual vectorization of raster background (selected municipalities map of the district), curves and areas, tools Bezier tool, functions, Weld, Trim. Vector graphics: cartogram creation of cartodiagrams and graphical scale for the selected district, tools Basic shapes, Bezier tool, Align. Vector graphics: vector formats, edit existing vector background, creating cartograms. Vector graphics: manual vectorization of raster surface (topographic map with contour lines), zhladzovanie curves show qualitative phenomena.

Recommended literature:
KADAVÝ, D., PÍRKOVÁ, K. 2008: CorelDRAW X4: Podrobná uživatelská příručka. Praha (Computer Press).
CORELDRAWTIPS 2013: Corel Draw Tips. http://coreldrawtips.com/site/coreldraw-tutorials
COREL 2013: CorelDRAW Graphics Suite Tutorials:http://www.corel.com/corel/pages/index.jsp?pgid=800382&storeKey=ca&languageCode=en

Course language:

Notes:

Course assessment
Total number of assessed students: 197

A	B	C	D	E	FX
64.97	17.26	12.69	3.55	1.52	0.0

Provides: doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Ján Šašak, Mgr. Jozef Šupinský

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 739

A	B	C	D	E	FX
60.89	13.8	12.58	8.66	3.38	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: 25.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 705

A	B	C	D	E	FX
81.13	9.79	6.52	0.99	0.85	0.71

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: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 462

A	B	C	D	E	FX
3.68	10.17	18.83	35.93	26.84	4.55

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

Date of last modification: 31.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 453

A	B	C	D	E	FX
14.79	24.06	28.04	20.97	11.04	1.1

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

Date of last modification: 20.09.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:	
Notes:	

Course assessment Total number of assessed students: 628					
A	B	C	D	E	FX
7.64	21.34	29.14	27.71	11.62	2.55
Provides: prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD.					
Date of last modification: 29.03.2020					
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ MGS/06	**Course name:** Hungarian geographical seminar

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 ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Hungarian geographical terminology on particular topics in geology, geomorhpology, climatology, hydrography, pedogeography, biogeography. The professionals from the past in Hungary, the system of universty studies in Hungary. Hungarian gegraphical periodicals, monographs.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

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

Provides:

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ IKTP/15	**Course name:** Information and Communication Technologies

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 ECTS credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:
Problems solved during the semester. A final project using presentation programs, spreadsheet programs, text processors, internet resources and search tools. The ECDL certificate (all 7 modulus) is accepted as the exam with the ranking "A-výborne".

Learning outcomes:
To achieve and extend fundamental information and communication knowledge to the level which is acceptable in the EU region.

Brief outline of the course:
Text processing using a word processor.
Processing and evaluation of information using a spreadsheet.
Search, retrieval and exchange of information via the Internet.
Creating presentations.

Recommended literature:
1. Franců, M: Jak zvládnout testy ECDL. Praha : Computer Press, 2007. 160 s. ISBN 978-80-251-1485-8.
2. Jančařík, A. et al.: S počítačem do Evropy – ECDL. 2. vydanie. Praha : Computer Press, 2007. 152 s. ISBN 80-251-1844-3.
3. Kolektív autorov: Sylabus ECDL verzia 5.0. [on-line] [citované 9.2.2010]. Dostupné na internete: <http://www.ecdl.sk/buxus/docs//interne_informacie/Sylabus_V5.0/20090630ECDL-SylabusV50_SK-V01_FIN.pdf>.

Course language:

Notes:

Course assessment
Total number of assessed students: 1012

A	B	C	D	E	FX
65.91	17.69	6.92	3.46	1.68	4.35

Provides: Mgr. Alexander Szabari, PhD., doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 03.05.2015
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ IBdi/15	**Course name:** Information security principles

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 ECTS credits: 3

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:

Notes:

Course assessment
Total number of assessed students: 28

A	B	C	D	E	FX
25.0	21.43	25.0	10.71	3.57	14.29

Provides: RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ UGE/15	**Course name:** Introduction to 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 ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
The evaluation is based on combination of continuous evaluation (30%) and a final written examination (70%). The credits will not be awarded if evaluation is less then the E grade from both parts of evaluation. The E grade will not be awarded for the final written examination if student is successful less than 50%.

Learning outcomes:
Students profit a basic orientation in the position and structure of the department, current development trends and literature. Students will create a comprehensive picture of discovering Earth and the gradual development of geography from the earliest times to the present in the context of the most important personalities and milestones of development. Students profit a basic information about the personality of Geography and applications of geography into practice.

Brief outline of the course:
Home geographic discipline is to provide students a basic orientation – object Geography, subject Geography, Landscape sphere of the Earth, System of geographic sciences (Haggett model, Demko model, model of Mičian, Lauko model), application geographic knowledge into practice, development of geographic thought (Period before Antik - oldest maps, market, strategic importance of geographic information, Ancient period - Greek geography, cosmological ideas - Roman geography, new cartographic methods, Mediaeval period - Arab geography, market, belief, cartography, compass, Period of large geographic discoveries - rediscovery of America, Around the World, Australia, Antarctica, Northern sea way), personality Geography (Humboldt, Ritter, Hetner, Bel, Hromádka, Lukniš), Human Geography, Regional Geography (basic theories and their representatives), Hettner School, use geography in practice.

Recommended literature:
MICHAELI, E., IVANOVÁ, M. (2015). Geografická tektológia - metageografia. PU FHPV Prešov. 252 s.
PAULOV, J. (2014). Dejiny geografie a jej vedecký status. Geografický časopis, 66, 1, s. 39-47.
PAULOV, J. (2012). Základné paradigmy v rozvoji geografie ako vedy: pokus o stručnú identifikáciu. Geografický časopis, 64, 2, 2012, s. 111-120.
PAULOV, J. (2012). Čo je "nová ekonomická geografia"?: pokus o stručnú charakteristiku. Geografický časopis, 64, 1, s. 47-54.

HOFIERKA, J. (2012). Geoinformatika ako interdisciplinárna vedná oblasť a jej vzťah ku geografii. Geografický časopis, 63, s. 345-355.
DEMEK, J. (1987). Úvod do štúdia teoretickej geografie. Bratislava, SPN. 241 s.
MIČIAN, Ľ (2008). Všeobecná geoekológia. UK Bratislava, 87 s.
MIČIAN, Ľ., ZATKALÍK, F. (1986). Náuka o krajine a starostlivosť o životné prostredie. UK Bratislava, s. 137.
RIEDLOVÁ, M., DEMEK, J., PECH, J. (1980). Úvod do studia geografie, dějiny geografie. Praha, SPN, 158 s.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 863

A	B	C	D	E	FX
10.43	12.05	27.23	26.3	22.6	1.39

Provides: prof. Mgr. Jaroslav Hofierka, PhD.

Date of last modification: 16.09.2017

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week: Per study period:** 12s / 3d **Course method:** present	
Number of ECTS 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:	
Notes:	
Course assessment Total number of assessed students: 1554	

abs	n
88.61	11.39

Provides: prof. RNDr. Viliam Geffert, DrSc.
Date of last modification: 25.09.2019
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/UGR1/15	**Course name:** Introduction to computer graphics

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 ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide the students with knowledge of graphics algorithms and basic principles of computer graphics.

Brief outline of the course:
Graphics hardware, input and output devices. Color models, palettes. Raster graphics algorithms for drawing 2D primitives. Filling and clipping. Curve modeling, interpolations and approximations, spline forms, Bézier curves, B-splines, surfaces. Homogenous coordinates, affine transformations, perspective and parallel projections. Visible-surface determination, illumination and shading. Rendering techniques, photorealism, textures, ray tracing, radiosity. Object representations, computer animation, virtual reality.

Recommended literature:
FOLEY, J. D., van DAM, A., FEINER, S., HUGHES, J.: Computer Graphics: Principles and Practice, Addison-Wesley, 1991
MORTENSON, M.E.: Geometric modeling, 2.ed., Willey, 1997

Course language:

Notes:

Course assessment
Total number of assessed students: 292

A	B	C	D	E	FX
14.04	9.93	13.36	23.63	30.48	8.56

Provides: prof. RNDr. Gabriel Semanišin, PhD., RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UNS1/15	**Course name:** Introduction to neural networks

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 ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To understand and to know applications of basic paradigms of neural networks. To learn working with software for neural network models.

Brief outline of the course:
Basic models of computational units - neurons (linear threshold gates, polynomial threshold gates, perceptrons), their computational capability, algorithms of adaptations. Feed-forward neural networks, back propagation algorithm. Hopfield neural networks. ART neural networks. Using neural networks to solving of problems. Genetic and evolution algorithms.

Recommended literature:
J. Hertz, A.Krogh, R.G. Palmer: Introduction to the theory of neural computation, Addison Wesley, 1991
HASSOUN, M. H.: Fundamentals of artificial neural networks, The MIT Press, 1995

Course language:

Notes:

Course assessment
Total number of assessed students: 420

A	B	C	D	E	FX
12.38	16.67	23.33	19.76	23.33	4.52

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UIN1/15	**Course name:** Introduction to study of informatics

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 ECTS credits: 5

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:

Notes:

Course assessment
Total number of assessed students: 250

A	B	C	D	E	FX
40.0	16.8	15.2	9.6	3.6	14.8

Provides: doc. RNDr. Stanislav Krajči, PhD., RNDr. Ondrej Krídlo, PhD., Mgr. Alexander Szabari, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ KVA/15	**Course name:** Landscape in the Quarternary

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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 349

A	B	C	D	E	FX
46.7	30.37	16.05	5.44	1.43	0.0

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

Date of last modification: 08.09.2016

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/MZIa/10	**Course name:** Mathematical foundations of informatics I

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 ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Two tests and completion of individual homework.
Based on semestral evaluation and examination test.

Learning outcomes:
To obtain basic knowledge in arithmetic, linear algebra, abstract algebra and calculus, to learn proof methods and to use the obtained knowledge in problem solving.

Brief outline of the course:
Integers, divisibility, congruences, congruence classes. Fields and groups. Systems of linear equations, matrices, matrix operations, determinants. Functions and their properties, continuity, limit, derivative. Analysis of functions.

Recommended literature:
Huťka, Benko, Ďurikovič: Matematika, Alfa, Bratislava 1991
D. Studenovská, T. Madaras, S. Mockovčiak: Zbierka úloh z matematiky pre nematematické odbory, UPJŠ 2006
D. Studenovská, T. Madaras: Matematika pre nematematické odbory, UPJŠ 2006
J. Ivan: Matematika 1, Alfa, Bratislava 1989
T. Katriňák a kol.: Algebra a teoretická aritmetika, Alfa, Bratislava 1986

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 215

A	B	C	D	E	FX
0.47	7.91	8.84	16.28	45.12	21.4

Provides: prof. RNDr. Tomáš Madaras, PhD., RNDr. Pavel Molnár, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/MZIb/10	**Course name:** Mathematical foundations of informatics II

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 ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/MZIa/10

Conditions for course completion:
Based on results of two tests and individual homeworks.
Based on semestral evaluation and examination test.

Learning outcomes:
To extend the obtained knowledge in mathematics by topics in integral calculus, differential equations and infinite series.

Brief outline of the course:
Indefinite and definite integral and their applications. Differential equations. Series, convergence criteria. Series of functions, Taylor expansion. Periodic functions, trigonometric series, Fourier expansion.

Recommended literature:
Huťka, Benko, Ďurikovič: Matematika, Alfa, Bratislava 1991
D. Studenovská, T. Madaras, S. Mockovčiak: Zbierka úloh z matematiky pre nematematické odbory, UPJŠ 2006
D. Studenovská, T. Madaras: Matematika pre nematematické odbory, UPJŠ 2006
J. Ivan: Matematika 2, Alfa, Bratislava 1989
T. Katriňák a kol.: Algebra a teoretická aritmetika, Alfa, Bratislava 1986

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 107

A	B	C	D	E	FX
0.93	9.35	8.41	21.5	52.34	7.48

Provides: prof. RNDr. Tomáš Madaras, PhD., RNDr. Pavel Molnár, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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

Notes:

Course assessment
Total number of assessed students: 72

A	B	C	D	E	FX
45.83	40.28	11.11	2.78	0.0	0.0

Provides: prof. RNDr. Peter Spišiak, CSc.

Date of last modification: 20.09.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/OSY1/15	**Course name:** Operating systems

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 ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Test and oral exam

Learning outcomes:
To gain knowledge about the basic architecture of the operating system. Understand algorithms for multi-process CPU allocation, interprocess communication, and memory allocation.
To be able to apply basic synchronization procedures and to solve problems of allocation of common resources for I / O operations.
Understand the organization of files and their protection by access rights. To be able to practically use the services of the Unix and Windows operating system.

Brief outline of the course:
Operating system structure and basic functions.
Different kinds of operating systems and their history.
Multiprogramming, context switching, interrupts, time sharing, interoperability.
Processes, process management, threads, scheduling, interprocess communication (race condition, mutual exclusion, deadlock, starvation).
Memory management, relocation, segmentation, paging, virtual memory.
I/O management, device drivers, interrupt handlers.
External memory (disk) - direct and sequential access.
File systems, file operations, directories, access control, access rights.

Recommended literature:
1. A. Silberschatz, G. Gagne, P. Baer: Operating System Concepts, Wiley, 2002
2. A. S. Tanenbaum: Modern Operating Systems, Prentice-Hall, 2001

Course language:

Notes:

Course assessment
Total number of assessed students: 228

A	B	C	D	E	FX
25.44	15.35	18.42	19.74	15.35	5.7

Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. PhDr. Peter Pisarčík

Date of last modification: 14.01.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 512

A	B	C	D	E	FX
21.68	24.22	25.78	16.02	11.33	0.98

Provides: PaedDr. Renáta Orosová, PhD., Mgr. Zuzana Boberová, PhD.

Date of last modification: 13.09.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 708

A	B	C	D	E	FX
89.97	7.77	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: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 460

A	B	C	D	E	FX
21.09	28.91	31.09	13.04	3.91	1.96

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

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/FYG1/03	**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 ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

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:

Notes:

Course assessment
Total number of assessed students: 660

A	B	C	D	E	FX
2.42	4.7	18.64	28.33	38.48	7.42

Provides: RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD.

Date of last modification: 16.09.2017

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 649

A	B	C	D	E	FX
28.66	27.89	25.58	11.09	6.32	0.46

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

Date of last modification: 25.09.2018

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ PLG/15	**Course name:** 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 ECTS credits: 3

Recommended semester/trimester of the course: 1.

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 in the form of tasks on individual work with a share of 30% of the resultant evaluation. The final control is written and constitutes 70% of the resultant evaluation. The resultant evaluation is a weighted average of the continuous (30%) and final (70%) control. Credits will be awarded only to a student who achieves the evaluation at the minimum level of the mark E in every part of the evaluation.

Learning outcomes:
The learning result is getting the basics of astronomy and astrophysics in terms of planetary geography.

Brief outline of the course:
A brief overview of astronomy. The emergence and development of fundamental knowledge about the Earth and the universe. Space system components and building solar system: origin and evolution of the solar system and solar system objects. Mechanics of the solar system - Kepler's laws of planetary orbits elements, aspects, and anomalies, solar system objects. Celestial sphere. Movements of the sun, moon and celestial bodies. Basic data on the Earth. Movements of Earth and their geographical implications. Coordinate systems and basic orientation on the surface. Time and calendar, timing and time zones.

Recommended literature:
Andrle, P., 1971: Základy nebeskej mechaniky. Praha: Academia, 1971, 305s.
Brázdil, R.,Mucha, L.,Okáč, Z.,1981: Matematická geografie. Praha: NTL, 1981, 273s.
Brázdil, R. a kol., 1988: Úvod do studia planety Země. Praha: SPN, 1988, 365 s.
Čeman, R, Pittich E., 2005: Vesmír I - Slnečná sústava. Bratislava: MAPA Slovakia, 2005, 383s.
Čapek, R. 1992: Planetární geografie. Praha: Karolinum, Praha, 84s.
Dušek, J., Grigar, J. a Pokorný, Z., 2009: Náš vesmír. Praha: Aventinum, 2009, 255s., ISBN: 9788086858654.
Farndon, J., 2003: 1000 zaujímavostí o vesmíre. Bratislava: Belimex, 2003, 224s., ISBN: 80-89083-33-1.
Ferris, T., 2005: Všetko o vesmíre. Bratislava: Remedium, 2005, 415s., ISBN: 8088993857.
Grego, D., 2011: Neuveriteľný vesmír, Praha: Albatros, 2011, 120s., ISBN: 978-80-00-02818-7.

Hilbert, H., 2001: Vybrané kapitoly z planetárnej geografie. Banká Štiavnica: UMB Fakulta prírodných vied, 2001, 96s.
Hlaváč, Z., 2000: Základy sférické astronomie a nebeské mechaniky, Plzeň: Západočeská univerzita, 2000, ISBN 80-7082-694-0.
Jakeš, P.,1984: Planeta Země. Praha: Mladá fronta, 1984, 416s.
Némethová, J. a Garai, Z., 2008: Zbierka otázok a úloh z planetárnej geografie. Nitra: UKF, 2009, ISBN: 9788080945602.
Astronomická ročenka 2013, 2014, journal, Hurbanovo: Slovenská ústredná hvezdáreň (Slovak Central Observatory).

Course language:
Slovak

Notes:
without notices

Course assessment
Total number of assessed students: 483

A	B	C	D	E	FX
25.67	21.95	23.19	20.08	5.38	3.73

Provides: prof. Ing. Vladimír Sedlák, PhD.

Date of last modification: 10.02.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ PVS/15	**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 ECTS credits: 4	
Recommended semester/trimester of the course:	
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:	
Notes:	

Course assessment
Total number of assessed students: 119

A	B	C	D	E	FX
68.07	2.52	5.88	6.72	13.45	3.36

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

Date of last modification: 29.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 219

A	B	C	D	E	FX
98.17	0.91	0.46	0.0	0.46	0.0

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

Date of last modification: 25.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PRP2/15	**Course name:** Principles of computers

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 ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
- Know brief history of computer, classification and construction principles of computers of von Neumann type.
- Understand relation between real numbers, integers and their binary representation as well as be able to perform basic arithmetic and logic operations over binary represented numbers.
- Learn basics about logic gates, combination and sequence circuits and their structure. Understand principles of how basic circuits realize arithmetic-logic unit and other parts of computers e.g. memory.
- Know principles of communication of processor and other devices via interruptions and direct memory access.
- Get idea of device drivers, device controllers and their functionality.

Brief outline of the course:
Brief outline of the course:
- computers of von Neumann type,
- history of computers,
- binary encoding of real numbers and integers,
- realization of computers parts by sequence and combination circuits,
- principles of various memory cells and memory matrices,
- types of memories,
- architecture of processor on levels of digital logic, machine cycle, instruction cycle,
- input and output devices,
- principles of interruptions,
- direct memory access,
- device drivers,
- device controllers,
- peripheral devices.

Recommended literature:
1. W. Stallings: Computer Organization and Architecture, Prentice Hall, 2002

Course language:

Notes:

Course assessment
Total number of assessed students: 180

A	B	C	D	E	FX
28.33	15.0	16.67	15.56	23.89	0.56

Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. Juraj Šebej, PhD.

Date of last modification: 13.01.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PBS/15	**Course name:** Pro-seminar to bachelor thesis
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 1 **Per study period:** 14 **Course method:** present	
Number of ECTS credits: 1	
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:	
Notes:	

Course assessment
Total number of assessed students: 272

abs	n
93.38	6.62

Provides: RNDr. Ľubomír Antoni, PhD., RNDr. Ondrej Krídlo, PhD.
Date of last modification: 03.05.2015
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SPP1a/15	**Course name:** Programming environments in schools I

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 ECTS credits: 4

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 299

A	B	C	D	E	FX
33.78	19.06	17.73	13.71	11.04	4.68

Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD.

Date of last modification: 02.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SPP1b/15	**Course name:** Programming environments in schools II

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 ECTS credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚINF/SPP1a/15

Conditions for course completion:
Creation of educational software in selected educational programming environment.

Learning outcomes:
1. To get an overview of children's programming environments.
2. To acquire programming skills in selected children's programming environments.
3. Ability to design and program educational software in educational programming environments.

Brief outline of the course:
Teaching of algorithms and programming in elementary school - the objectives, content, textbooks and methodological materials. Algorithmic computer games. Overview of children's programming environments. Programming in environments - Scratch, App Inventor, MakeCode, MicroPython. Development of educational software.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 16

A	B	C	D	E	FX
25.0	18.75	12.5	25.0	6.25	12.5

Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD.

Date of last modification: 01.04.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PRS/15	**Course name:** Programming of robotic kits
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 ECTS credits: 3	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Assessment of individual work on computers for a number of sub-assignments - robotic mini-project. Creating and presenting a programmed robotic model including documentation.	
Learning outcomes: 1. To acquire an overview of robotic sets and robotic programming environments. 2. To acquire skills in constructing and programming robots in selected robotic programming environments.	
Brief outline of the course: Robotic set (Lego Mindstorms) - components, engines, sensors, basics of constructing of the mechanical parts of the model. Programming robotic models in languages NXT-G and NXC - branching statements, loops, blocks, events, parallel processes that work with sensors, datalogging, communication between several NXT bricks. Creating mini-project (eg, traffic lights, parking, dance creations, guitar, smart thermometer, measuring distance). Robotic competition, ideas for demanding projects. Creation and presentation of the final project - a programmed robot model (eg, navigate a maze, sports, paramedic) including documentation.	
Recommended literature: 1. BUMGARDNER, J. (2007) The Origins of Mindstorms. Wired, 2007. http://www.wired.com/geekdad/2007/03/the_origins_of_/ 2. Carnegie Mellon. Robotics Academy. http://www.education.rec.ri.cmu.edu/ 3. KABÁTOVÁ, M. a kol. (2010) Ďalšie vzdelávanie učiteľov základných škôl a stredných škôl v predmete informatika: Didaktika robotických stavebníc. Bratislava : ŠPÚ, 2010. ISBN 978-80-8118-070-5 4. JAKEŠ, T. (2014) LEGO MINDSTORMS NXT - Robotické vzdělávání, ZČU v Plzni, 2014. https://lego.zcu.cz/web/	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 44

A	B	C	D	E	FX
47.73	25.0	13.64	2.27	0.0	11.36

Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PSW1/06	**Course name:** Programming of web-pages

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 ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Acquire overview about modern technologies to make dynamic web pages. Be able to make web pages with cascading styles according to W3C standards. Use technologies on server side (PHP) and on client side (JavaScript). Understand relational databases (MySQL). Understand web applications security risks and know how to eliminate them.

Brief outline of the course:
Principle of making web pages. HTML language, W3C standards. Optimization of work, cascading styles. Tools for creating the web. Programming in JavaScript. Simple scripts for dynamic web pages. Programming on server side, script language PHP. Application based on PHP. Work with MySQL database. Conjunction of used technologies. Selected problems resolvable by technologies on server side and on client side.

Recommended literature:
GILMORE, W. Jason. Beginning PHP and MySQL: from novice to professional. 4th ed. New York: Apress, 2010. ISBN 978-143-0231-141.
KOSEK, Jiří. PHP - tvorba interaktivních internetových aplikací: podrobný průvodce. Vyd. 1. Praha: Grada, 1999, 490 s. Průvodce (Grada). ISBN 80-716-9373-1.
SUEHRING, Steve a Janet VALADE. PHP, MySQL, JavaScript. Vyd. 1. Brno: Computer Press, 2006, xxiv, 692 pages. --For dummies. ISBN 978-1-118-21370-4.
HUSEBY, Sverre H. Zranitelný kód. Brno: Computer Press, 2006, 207 s. ISBN 80-251-1180-6.
THE OWASP FOUNDATION. OWASP [online]. 2014 [cit. 2014-02-26]. Dostupné z: https://www.owasp.org/index.php/Main_Page

Course language:
slovak

Notes:

Course assessment Total number of assessed students: 200					
A	B	C	D	E	FX
9.5	8.5	9.5	9.0	22.5	41.0
Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD.					
Date of last modification: 27.03.2020					
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PAZ1a/15	**Course name:** Programming, algorithms, and complexity

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 4 **Per study period:** 42 / 56
Course method: present

Number of ECTS credits: 8

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Get a prescribed minimum number of points for activities of continuous assessment and for solving tasks during final practical test.

Learning outcomes:

Brief outline of the course:
First part of the course (with turtle graphics): New Eclipse project, interactive communication with objects, simple turtle graphics, making user methods, local variables, variable types, arithmetic and logical expressions, random numbers, conditions, loops for and while, debugging, references, chars, Strings, arrays, instance variables, mouse events, simple array algorithms.
Second part of the course (without turtle graphics): Exceptions, using try-catch-finally block, files and directories, conversion from string variables, encapsulation, constructors with parameters, constructors hierarchy, getters and setters, interfaces, inheritance and polymorphism, abstract classes and methods, packages, visibility modifiers, sorting using Arrays.sort() and interfaces Comparable and Comparator, Java Collections Framework: autoboxing, interface List, ArrayList, LinkedList, interface Set and class HashSet, methods equals() and hashCode(), for-each loop, interface Map and class HashMap, custom Exceptions, rethrowing exceptions, exceptions' inheritance, Runtime exceptions, Errors, static variables and methods.

Recommended literature:
1. ECKEL, B.: Thinking in Java, Pearson, 2006, ISBN: 978-01-318-7248-6
2. PECINOVSKÝ, R.: OOP - Naučte se myslet a programovat objektově, Computer Press, a.s., Brno, 2010, ISBN: 978-80-251-2126-9
3. SIERRA, K., BATES, B. Head First Java, O'Reilly Media; 2nd edition, 2005, ISBN: 978-05-960-0920-5

Course language:
Slovak language, english language is required only to read Java API documentation.

Notes:

Course assessment
Total number of assessed students: 665

A	B	C	D	E	FX
16.39	7.52	11.43	15.49	14.59	34.59

Provides: RNDr. František Galčík, PhD., RNDr. Matej Nikorovič, PhD., RNDr. Ľubomír Antoni, PhD., RNDr. Zuzana Bednárová, PhD., RNDr. Miroslav Opiela, RNDr. Juraj Šebej, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PAZ1b/15	**Course name:** Programming, algorithms, and complexity

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 4 **Per study period:** 28 / 56
Course method: present

Number of ECTS credits: 7

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15

Conditions for course completion:
Get a given minimum number of points for activities of continuous assessment and for solving tasks during final practical test. The final practical test focuses on application of known algorithms and techniques of efficient algorithm design.

Learning outcomes:

Brief outline of the course:
Recursion and its applications, fractals. Binary search and simple sorting algorithm with quadratic time complexity. Time and space complexity of algorithms, analysis of time complexity, O-notation. Basic data structures and their applications: linked list, stack, and queue. Hierarchical data and their representation, trees, tree traversals, binary search trees. Arithmetic expressions, evaluation of an arithmetic expression. Efficient sorting algorithm: QuickSort, MergeSort, and HeapSort. Backtrack. Techniques "divide and conquer" and dynamic programming as methods for design of efficient algorithms. Basic graph algorithms for unweighted graphs (Breadth-first search, Depth-first search, graph connectivity, graph components, graph bridges, topological sort) and for weighted graphs (shortest paths: Bellman-Ford algorithm, Dijkstra algorithm, Floyd-Warshallov algorithm; minimum spanning tree: Prim algorithm, Kruskal algorithm). String algorithms. Greedy algorithms.

Recommended literature:
WRÓBLEWSKI, P.: Algoritmy, datové struktury a programovací techniky. Computer Press, Brno, 2004
CORMEN, T.H., LEISERSON, Ch.E., RIVEST, R.L, STEIN, C. Introduction to Algorithms. The MIT Press, 2009.
KLEINBERG, J., TARDOS, E.: Algorithm Design, Cornell University, Addison Wesley, New York, 2006.

Course language:
Slovak language, literature is available in english and czech language.

Notes:

Course assessment
Total number of assessed students: 1142

A	B	C	D	E	FX
12.17	6.48	9.28	20.05	22.85	29.16

Provides: doc. RNDr. Gabriela Andrejková, CSc., RNDr. František Galčík, PhD., PaedDr. Ján Guniš, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PAZ1c/15	**Course name:** Programming, algorithms, and complexity

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 ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Gain skills to design and implement complex application with three-layer architecture and well-known design patterns.

Brief outline of the course:
1. Food vending machine as an example of small project. Class identification. Use-cases. Method and instance variable identification. Unit testing in JUnit.
2. Designing CRUD application. Quote Database application example. Entity identification and design. Entity identity. Designing interfaces for Data Access Objects and demo implementation. Three-layered architecture.
3. Bussiness logics in classes. Designing a simple layered application. Class relationships with static association. Pros and cons in hardwired associations.
4. Implementing Factory design pattern as an abstraction of hardwired association. Examples and usage of factory. Briefly about MVC design pattern. Models and view in Swing. Model examples: static, dynamic, refreshing model.
5. Interface as a contract between client and class. Contract in code: input and output parameters, exceptions. Preconditions, postconditions, invariants. Favouring interface over implementation. Inheritance vs composition dilemma. Pros and cons of inheritance, choosing a suitable inheritance candidate. Favouring composition over inheritance.
6. Encapsulation: definition and real use. Best practices for enforcing encapsulation. More about pros and cons of inheritance with examples. Liskov Substitution principle. Delegation as a hybrid between inheritance and composition.
7. Associations between classes. Cardinalities: 1:1, 1:M, 1:N. Design and realization in the code.
8. Exceptions: designing exceptions, exceptions classes and best practices. Three types of exception handling. Logging with default tools and with `slf4j` library. Logging best practices.
9. Service classes: two design approaches. Configuration vs input parameters.
10. Database access with Spring JDBC Template. Mapping objects and relationships.

Recommended literature:
SIERRA, K., BATES, B.: Head First Java (2nd Edition), 2005
ECKEL, B.: Thinking in Java (4th Edition), 2006

Course language:

Notes:

Course assessment
Total number of assessed students: 282

A	B	C	D	E	FX
35.11	19.5	15.96	13.83	10.64	4.96

Provides: RNDr. Róbert Novotný, PhD., RNDr. Peter Gurský, PhD.

Date of last modification: 19.01.2017

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 402

A	B	C	D	E	FX
16.67	13.18	22.64	21.89	21.89	3.73

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

Date of last modification: 18.03.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 146

A	B	C	D	E	FX
54.11	11.64	24.66	6.85	2.05	0.68

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 18.03.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ RUR/15	**Course name:** Rural 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 349

A	B	C	D	E	FX
40.69	33.52	17.48	6.3	1.43	0.57

Provides: prof. RNDr. Peter Spišiak, CSc.

Date of last modification: 01.04.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 208

A	B	C	D	E	FX
40.38	27.88	18.75	8.65	3.37	0.96

Provides: Mgr. Zuzana Boberová, PhD.

Date of last modification: 17.09.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 42

abs	n
11.9	88.1

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.
Date of last modification: 15.03.2019
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS 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:

Notes:

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:

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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: ÚTVAR REKTORA UPJŠ 2019: Základné usmernenia a dokumenty k záverečným prácam na UPJŠ v Košiciach. Dostupné na: <https://www.upjs.sk/pracoviska/univerzitna-kniznica/zaverecne-prace/>. ÚSTAV GEOGRAFIE PF UPJŠ 2019: Pokyny na tvorbu záverečných prác na Ústave gego-rafie Prírodovedeckej fakulty UPJŠ v Košiciach. Dostupné na: <https://geografia.science.upjs.sk/images/studium/Pokyny_ZP_UGE_2019.pdf>. HOVORKA, D., KOMÁREK, K., CHRAPAN, J. 2011: Ako písať a komunikovať. Martin (Vydavateľstvo Osveta). KATUŠČÁK, D. 2008: Ako písať záverečné a kvalifikačné práce. Nitra (Enigma).	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 390

A	B	C	D	E	FX
94.62	3.85	0.77	0.0	0.77	0.0

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ladislav Novotný, PhD.

Date of last modification: 16.09.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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

Notes:

Course assessment
Total number of assessed students: 351

A	B	C	D	E	FX
70.09	21.08	7.41	0.57	0.28	0.57

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ladislav Novotný, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ BSI1a/15	**Course name:** Seminar in informatics

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 ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Presentation of algorithms for problems of a higher complexity. Presentation of results connecting to the bachalor theses, known and own results.

Learning outcomes:
To inform students about new results in informatics with the goal using them in bachalor theses.

Brief outline of the course:
The seminar has a connection to the bachalor theses and to the repetitorium in informatics. Students present results of their work once in semester at least.

Recommended literature:
Sources of problems:
www.ksp.sk
www.ksp.sk/MOP/
Special research literature according to bachalor theses.

Course language:

Notes:

Course assessment
Total number of assessed students: 214

A	B	C	D	E	FX
21.5	18.22	24.3	17.29	16.82	1.87

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/BSI1b/15	**Course name:** Seminar in informatics

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 ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To inform students about new results in informatics with the goal using them in bachalor theses. To repeat important knowledges in informatics.

Brief outline of the course:
The seminar has a connection to the bachalor theses and to the repetitorium in informatics. Students present results of their work once in semester at least. To get credits, it is necessary to get the developed number of points from repetitorium.

Recommended literature:
Sources of problems:
www.ksp.sk
www.ksp.sk/MOP/
Special research literature according to bachelor theses.

Course language:

Notes:

Course assessment
Total number of assessed students: 127

A	B	C	D	E	FX
26.77	21.26	25.98	14.96	9.45	1.57

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX
42.11	0.0	26.32	26.32	5.26	0.0

Provides: Dr.h.c. prof. PhDr. Marcela Gbúrová, CSc.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SWI1a/15	**Course name:** Software engineering

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 ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚINF/DBS1a/15 or ÚINF/DBdi/15

Conditions for course completion:

Learning outcomes:
To provide information concerning the principal activities related to the development of software products.

Brief outline of the course:
System, subsystem, software system. Software processes. Introduction to project management. Requirements gathering. Software modelilng. Software architectures. Software development methodologies. Verification and validation. Resource management.

Recommended literature:
1. BERKUN, S. The Art Of Project Management. O Reilly, 2005.
2. BJORNER, D. Software engineering 1,2,3. Springer-Verlag Berlin, 2006.
3. SOMMERVILLE, I. Software Engineering. Addison-Wesley, 2007.

Course language:

Notes:

Course assessment
Total number of assessed students: 279

A	B	C	D	E	FX
16.49	20.43	20.07	19.35	22.22	1.43

Provides: prof. RNDr. Gabriel Semanišin, PhD., Mgr. Alexander Szabari, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 139

A	B	C	D	E	FX
22.3	23.02	24.46	21.58	7.91	0.72

Provides: Mgr. Andreas Schiestl

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:	
Notes:	

Course assessment
Total number of assessed students: 12947

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.64	0.06	0.0	0.0	0.0	0.03	7.22	4.05

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 18.03.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:	
Notes:	

Course assessment
Total number of assessed students: 11186

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.58	0.55	0.02	0.0	0.0	0.05	9.99	3.8

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 18.03.2019

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 7741

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
90.03	0.04	0.01	0.0	0.0	0.03	4.04	5.85

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 5086

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.19	0.29	0.04	0.0	0.0	0.0	6.78	7.69

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Lucia Kršňáková, PhD., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 170

A	B	C	D	E	FX
99.41	0.0	0.0	0.0	0.0	0.59

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: 31.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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

Notes:

Course assessment Total number of assessed students: 195	
abs	n
96.92	3.08
Provides: doc. RNDr. Stanislav Lukáč, PhD., doc. RNDr. Jozef Hanč, PhD., doc. RNDr. Ľubomír Šnajder, PhD.	
Date of last modification: 03.05.2015	
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:	
Notes:	

Course assessment Total number of assessed students: 151	
abs	n
45.03	54.97
Provides: Mgr. Peter Bakalár, PhD.	
Date of last modification: 18.03.2019	
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:	
Notes:	

Course assessment Total number of assessed students: 392	
abs	n
44.39	55.61
Provides: Mgr. Marek Valanský, MUDr. Peter Dombrovský	
Date of last modification: 15.03.2019	
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SLO1a/15	**Course name:** Symbolic logic

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 ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To understand basic notions of sentence and predicate logic - sentence, sentence scheme, provability, satisfiability, term, formula.

Brief outline of the course:
Predicate logic – logic language, syntax and semantics, term, formula. Axioms, proof, provability. Interpretation, truth, model. Correctness of the predicate logic.

Recommended literature:
GOLDSTERN M., JUDAH H.: The Incompleteness Phenomenon, A New Course in Mathematical Logic, A K Peters, Wellesley, Massachusetts, 1995
http://cs.ics.upjs.sk/~krajci/skola/vyucba/ucebneTexty/logika/logika.pdf

Course language:

Notes:

Course assessment
Total number of assessed students: 394

A	B	C	D	E	FX
24.87	9.9	12.44	11.68	27.92	13.2

Provides: doc. RNDr. Stanislav Krajči, PhD., RNDr. Ondrej Krídlo, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. 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 ECTS 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:

Notes:

Course assessment
Total number of assessed students: 429

A	B	C	D	E	FX
31.0	35.66	22.38	6.76	1.63	2.56

Provides: Mgr. Zuzana Boberová, PhD., Mgr. Katarína Petríková, PhD.

Date of last modification: 20.03.2020

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ TPM/13	**Course name:** Topographic field mapping
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 3d **Course method:** present	
Number of ECTS credits: 2	
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:	
Notes:	

Course assessment
Total number of assessed students: 30

abs	n
96.67	3.33

Provides: prof. Ing. Vladimír Sedlák, PhD., doc. RNDr. Ján Kaňuk, PhD.
Date of last modification: 03.05.2015
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/TYS1/15	**Course name:** Typographical 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 ECTS credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide the basic information on principles for typesetting of documents containing mathematical formulas in Plain TeX, AMS-TeX, and LaTeX.

Brief outline of the course:
Typesetting of a plain text, special text symbols, using of text fonts. TeX macros. Enumerations in text and footnote command. Parameter setting determining the appearance of the pages. Typesetting of mathematical formulas in text and displays, aligning formulas. Definitions of TeX macros. Making tables and pictures. Definitions, theorems, and proofs in a mathematical document. Contents, bibliography, sections in a document.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 246

A	B	C	D	E	FX
47.97	18.29	19.51	6.5	6.91	0.81

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 03.05.2015

Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/WBdi/15

Course name: Web and a development of user environment

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 ECTS credits: 3

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

Course level: I.

Prerequisities:

Conditions for course completion:
Solving partial assignments and active participation in discussions in a virtual classroom. The course is realized in distance form.

Learning outcomes:
Create accessible and usable Web Sites, used the standards (X) HTML and CSS.
Apply the rules for the page layout.
Maintain website and use the basic procedures for their promotion.

Brief outline of the course:
Web Development using (X) HTML and CSS. Tools for web development. Standards of accessibility and usability of the web sites. Cycle of development web site and its promotion.

Recommended literature:
Basic sources for distance courses will be published in LMS Moodle.
TITTEL, Ed a Jeff NOBLE. HTML, XHTML & CSS. 7th ed. Hoboken, NJ: Wiley, c2011, xx, 392 p. --For dummies. ISBN 04-709-1659-1.
KRUG, Steve. Nenuťte uživatele přemýšlet!: praktický průvodce testováním a opravou chyb použitelnost webu. Vyd. 1. Brno: Computer Press, 2010, 165 s. ISBN 978-80-251-2923-4.
Slovensko. Výnos Ministerstva financií Slovenskej republiky z 9. júna 2010 o štandardoch pre informačné systémy verejnej správy. In: 312/2010. 2010. Dostupné z: http://informatizacia.sk/ext_dok-vynos_a_prilohy_2010-312/7431c

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 95

A	B	C	D	E	FX
13.68	10.53	9.47	18.95	24.21	23.16

Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD.

Date of last modification: 27.03.2020
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ZKLS//13	**Course name:** Winter Ski Training Course
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of ECTS 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:	
Notes:	
Course assessment Total number of assessed students: 97	

abs	n
32.99	67.01

Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Marek Valanský
Date of last modification: 03.05.2015
Approved: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Zdenko Hochmuth, CSc.