COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
kontrolný písomný test, aktivita na hodine
záverečný písomný test
miniprezentácie na dané témy
povolené max. 2 absencie
stupnica hodnotenia: A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 a menej
aktivita na hodine
predmet končí hodnotením

Learning outcomes:
Osvojenie si a rozvíjanie užitočných techník akademického písomného ako aj ústneho prejavu so zameraním na rozvoj jazykových kompetencií študenta, na upevňovanie a rozvíjanie všetkých jazykových zručností na stredne pokročilej úrovni ovládania jazyka (B2) podľa Spoločného európskeho referenčného rámca pre jazyky). Predmet kladie dôraz na používanie angličtiny v akademickom prostredí.

Brief outline of the course:
Akademická angličtina a jej charakteristiky
Čítanie odborných článkov, analýza, parafrázovanie
Spájacie slová v akademickom písaní
Formálna a neformálna angličtina a ich črty
Vyjadrovanie príčiny, následku v akademickom jazyku
Čítanie odbornej publikácie, analýza, parafrázovanie
Slovotvorba v anglickom jazyku- predpony a prípony
Ako prezentovať v angličtine
Parafrázovanie a definovanie
Ako písať abstrakt
Slovosled v akademickom diškurze

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:

Notes:

Course assessment
Total number of assessed students: 295

A	B	C	D	E	FX
28.81	22.37	16.27	11.53	8.14	12.88

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 06.09.2016

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 65

A	B	C	D	E	FX
78.46	18.46	0.0	1.54	0.0	1.54

Provides: PaedDr. Renáta Orosová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 19	

abs	n
94.74	5.26

Provides:
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/BKP/14	**Course name:** Bachelor Project

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Submission of the bachelor project based on the assignments of the supervisor and acceptance of its content by the supervisor.

Learning outcomes:
Bachelor project prepared as a design of a bachelor thesis, as an evidence that student is able to process konwledge available in different resources, citate correctly and keep the layout correctly, prepare a presentation and share the results in front of experts.

Brief outline of the course:
The bachelor project is aimed at the selected problem of physics. Based on the assignments student carries out the following activities:
development of the project, formulation of the problem and methods, formal and graphical layout, correct citations and references, basic principles of presentation and its defence.

Recommended literature:
1. Resources (literature, papers) based on the project assignments.
2. Regulations No. 1/2011 about final works (thesis for University of P.J. Safarik.

Course language:
Slovak, English

Notes:

Course assessment
Total number of assessed students: 2

abs	n
100.0	0.0

Provides:

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ BSSM/15	**Course name:** Bachelor State Exam Physics

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

Number of credits: 1

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Answering questions concerning selected fields of the subjects of Bachelor state exam.

Learning outcomes:
Basic knowledge and overview of konowledge in the fields stated by the Bachelro state exam.

Brief outline of the course:
Exam in the field of knowledge in physics consisting of an overview of the following fields:
- Mechanics and molecular physics
- Electricity and magnetism
- Oscillations and waves, optics
- Nuclear physics
- General biophysics
- Theoretical mechanics
- Theory of electromagnetic field
- Statistical physics

Recommended literature:

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 3

A	B	C	D	E	FX
66.67	33.33	0.0	0.0	0.0	0.0

Provides:

Date of last modification: 16.02.2016

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/BPO/14	**Course name:** Bachelor Thesis and its Defence

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Required number of credits gained basedon submitting the bachelor thesis.

Learning outcomes:

Brief outline of the course:
Presentation of the bachelor thesis results, answering questions of the reviewer and members of professional commission.

Recommended literature:

Course language:
Slovak or English

Notes:

Course assessment
Total number of assessed students: 7

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: prof. RNDr. Peter Kollár, DrSc., 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 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: 30

A	B	C	D	E	FX
33.33	30.0	16.67	10.0	10.0	0.0

Provides:

Date of last modification: 31.07.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 396

A	B	C	D	E	FX
4.8	8.84	18.43	30.81	28.79	8.33

Provides: RNDr. Daniel Klein, PhD., Mgr. Andrej Gajdoš, RNDr. Veronika Kopčová

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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:** Basis of karstology and speleology

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 196

A	B	C	D	E	FX
78.57	13.27	6.12	0.0	2.04	0.0

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 1159

A	B	C	D	E	FX
34.17	23.12	17.0	16.48	8.8	0.43

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:
During the semester student must hand in the outputs of exercise. Their number will be announced at the beginning of the semester. The final assessment of the exercises is based on the method fulfilled / not fulfilled.
The final assessment of the course is based on final exam. The student can undertake the final exam only after successful completion of the exercises.
The final exam consists of two parts:
- A written part – to get the A mark must be obtained at least 92 % of the total number of points, to get B must be obtained at least 84 % of the total number of points , C at least 75 %, D at least 68 %, E at least 60 % of total number of points.
- Oral – a student takes out two issues of the two question groups. (1 question is from the theoretical, thematic a selected issue of mathematical cartography, one question is from the geoinformatics).
The final assessment is calculated as a weighted average of the written part (1/3) and oral (2/3) , while student must obtaine at least mark E from both parts of the final exam.

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:
ROBINSON, A. H. et al. 1995:ElementsofCartography. Wiley&sons. 674 s.
PRAVDA, J., KUSENDOVÁ, D. 2007: Aplikovaná kartografia. Geo-grafika, Bratislava, 224 s.

HOFIERKA, J. 2003: Geografické informační systémy a diaľkový prieskum Zeme. Vysokoškolské skriptá. Prešovská univerzita, Prešov. 106 s. Dostupné na: http://web.science.upjs.sk/hofierka/vyuka/Hofierka_GIS&DPZ.zip
ArcGIS10Web Help. ArcGISResource Center. Environmental Research Institute. Dostupné na: http://help.arcgis.com/en/arcgisdesktop/10.0/help/index.html LONGLEY, P. A., GOODCHILD, M. F., MAGUIRE, D. J., RHIND, D. W. 2001: Geographic Information Systems and Science. John Wiley & Sons.

Course language:

Notes:

Course assessment
Total number of assessed students: 174

A	B	C	D	E	FX
10.92	19.54	22.41	17.24	25.29	4.6

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 21	

abs	n
85.71	14.29

Provides: JUDr. Renáta Bačárová, PhD., LL.M.
Date of last modification: 06.06.2016
Approved: prof. RNDr. Peter Kollár, DrSc., 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 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.
Continuous assessment: 2 credit tests (presumably in weeks 6 and 13) and academic presentation in English.
Test 1 = 40 points, test 2 = 40 points, presentation = 20 points.
In order to pass the course, it is necessary to score at least 65 points as a sum of test and presentation scores.
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 - úroveň B2.

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

Course language:

Notes:

Course assessment
Total number of assessed students: 191

A	B	C	D	E	FX
38.22	21.99	18.85	9.42	7.33	4.19

Provides: Mgr. Zuzana Naďová

Date of last modification: 01.09.2016

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: prof. RNDr. Peter Kollár, DrSc., 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 credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
kontrolná písomná práca,
záverečná písomná práca
stupnica hodnotenia: A 93-100, B 86-92, C 79-85, D 65-71, 64 a menej - FX
aktivita na hodinách, povolené 2 absencie
predmet je ukončený hodnotením

Learning outcomes:
Identifikovanie a odstránenie najfrekventovanejších gramatických chýb v ústnom prejave, ako aj v písomnom styku. Rozvoj jazykových kompetencií študenta so zameraním na funkcie gramatiky anglického jazyka v každodennej interakcii, v komunikačnom akte na stredne pokročilej úrovni ovládania jazyka (B2 podľa Spoločného európskeho referenčného rámca pre jazyky).

Brief outline of the course:
Zvieratá a rastliny na zemi
Zločin a trest
Cestovanie po mori a vzduchom
Jedlá a reštaurácie, národná kuchyňa
Vzdelanie na vysokých školách
História a viera
Vybrané problémy anglickej výslovnosti, gramatiky (nepriama reč, slovotvorba, predložkové väzby, anglická syntax, kondicionály v angličtine a slovnej zásoby príslušného zamerania
Vybrané funkcie praktického odborného jazyka potrebné na prácu s odborným textom

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

Course language:

Notes:

Course assessment
Total number of assessed students: 378

A	B	C	D	E	FX
39.42	18.25	17.2	8.73	5.82	10.58

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 06.09.2016

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 46

A	B	C	D	E	FX
54.35	13.04	8.7	4.35	10.87	8.7

Provides: PaedDr. Ingrid Puchalová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 3

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

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

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

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

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

Course language:
Slovak and English

Notes:

Course assessment
Total number of assessed students: 402

A	B	C	D	E	FX
29.85	35.57	21.14	8.46	4.23	0.75

Provides: Mgr. Ladislav Novotný, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ POF1a/99	**Course name:** Computational Physics I

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

Number of credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚFV/ANM/13 or ÚFV/NUM/10

Conditions for course completion:
Continuous evaluation is based on students' activity in the classroom and work on assignments. Examination and assignments submitted electronically with the attached computer code.

Learning outcomes:
To teach students to use computer as a tool of modeling of physical reality.

Brief outline of the course:
Introduction to dynamical systems. Numerical solution of ordinary differential equations (ODE) with initial value. Boundary value problems for ODE. Discrete schemes for partial differential equations (PDE). Numerical solution of PDE. Finite difference methods, consistency, convergence, stability. Eliptic and parabolic PDE. Introduction to Monte Carlo (MC) method and applicactions in statistical physics. MC simulations of lattice spin systems and stochastic processes.

Recommended literature:
1. C. Pozrikidis: Num. Comp. in Science and Engineering, Oxford Univ. Press, 1998.
2. A.L. Garcia: Numerical Methods for Physics, Prentice-Hall, 1994.
3. D. P. Landau, K. Binder: A Guide to Monte Carlo Simulations in Statistical Physics, Cambridge Univ. Press, 2000.
4. B. A. Berg: Introduction to Markov Chain Monte Carlo Simulations and Their Statistical Analysis, http://www.worldscibooks.com/etextbook/5904/5904_intro.pdf
5. W. Janke: Lectures on Ising model, http://www.physik.uni-leipzig.de/~janke/Ising_Lectures_Lviv.html

Course language:

Notes:

Course assessment
Total number of assessed students: 85

A	B	C	D	E	FX	N	P
38.82	17.65	7.06	15.29	12.94	2.35	0.0	5.88

Provides: doc. RNDr. Milan Žukovič, PhD.

Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ PPFM/15	**Course name:** Computer-Based Physical Measurement

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
active participation at all labworks
written laboratory records with data analysis

Learning outcomes:
Students is able to measure physical quantities and gains skills important for measuring and data processing with the help of computer. The result is deeper conceptual understanding of physical phenomena involved in the labworks that is connected mainly with the content of courses General Physics I,II,III.

Brief outline of the course:
The content of the course involves labworks in physics aimed at selected problems of General Physics I,II,III. Student learns about different methods of measurement of physical quantities, he gains skills concerning measurement and data processing with the help of computer. The set of labworks involves analysis of different phenomena followed by the data processing and written report.

Recommended literature:
1. Halliday, Hajko, V., Daniel-Szabó, J.: Základy fyziky, Veda Bratislava 1983
2. Veis, Š., Maďar, J., Martišovitš, V.: Všeobecná fyzika 1, Alfa, Bratislava, 1987
3. Hlavička, A. a kol.: Fyzika pre pedagogické fakulty, SPN Praha, 1971
4. Halliday, D., Resnick, R., Walker, J.: Fyzika, part1-4,VUT Brno, 2000

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 4

A	B	C	D	E	FX
50.0	0.0	50.0	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD.

Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 11

A	B	C	D	E	FX
72.73	27.27	0.0	0.0	0.0	0.0

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 7

A	B	C	D	E	FX
28.57	28.57	28.57	0.0	14.29	0.0

Provides: doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ELP1/01	**Course name:** Electonics Practical

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

Number of credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚFV/ELE1/07

Conditions for course completion:
Debate with students during practice, trial preparation and processing of theoretical and experimental results of their defense.
Summary evaluation of student activities while working on set topics of study practices.

Learning outcomes:
Practical work of students in the design, construction and properties of the measurements of electronic circuits and interpretation of the results obtained to verify and consolidate the theoretical knowledge acquired in lectures on the subject Electronics.

Brief outline of the course:
1. Combinatorial logical circuits. 2.Logical memory circuits. 3. Logical sequence circuits. 4. Rectifiers, filters, stabilizers. 5. Amplifier with bipolar transistor. 6. Stabilized DC power supplies. 7. Generators of harmonic signals. 8. Operational amplifiers and operational network interfaces. 9. Digital-to-analog converters. 10. Analog-to-digital converters. 11 Reserve.

Recommended literature:
1. Delaney C.F.G.: Electronics for the Physicist with Aplications. John Willey & Sons, New York, 1980.
2. Zbar P.B., Malvino A.P., Miller M.A.: Basic Electronics: a Text-Lab Manual. Macmillan/ McGraw – Hill, New York, 1994.

Course language:
slovak or english

Notes:

Course assessment
Total number of assessed students: 28

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

Provides: prof. RNDr. Rastislav Varga, DrSc., RNDr. Erik Čižmár, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ ELEM1/15	**Course name:** Electronics

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

Number of credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚFV/VF1b/03

Conditions for course completion:
Exam

Learning outcomes:
To explain physical principles of classical electronic components and systems and technologies of their realization. To perform analysis of properties and functions of basic electronic elements, electronic circuits and information transmission and processing systems. To introduce student into basic elements and devices in area of nanoelectonics and to explain methods of their fabrication and principles of their functioning.

Brief outline of the course:
Structure, properties and physical principles of the activity of selected electronic elements. Analysis of functions and properties of basic analog and digital electronic circuits. Nanoelectronics and selected building components of nanoelectronics: graphene, carbon nanotubes, selected types of nanodevices their properties, fabrication and integration to functional systems.

Recommended literature:
1. Brown P.B., Frantz G.N., Moraff H.: Electronics for the Modern Scientist. Elsevier, 1982.
2. Delaney C.F.G.: Electronics for the Physicist with Aplications. John Willey & Sons, 1980.
3. Wolt E. L.: Quantum Nanoelectronics, An introduction to electronic nanotechnology and quantum computing, Wiley-VCh, 2009

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 143

A	B	C	D	E	FX
26.57	24.48	28.67	8.39	4.2	7.69

Provides: Mgr. Vladimír Komanický, PhD., Prof. RNDr. Peter Kollár, CSc.

Date of last modification: 05.10.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/AGS/08	**Course name:** English 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 credits: 2

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
test

Learning outcomes:
The aim is to get students to work with the current language of geographers. The focus will primarily be on vocabulary of common geographical issues as geography of Europe, geography of the Slovak Republic, travel and tourism, project related English and some business English. Selected issues concerning the oral and written form of communication will be practised.

Brief outline of the course:
The subject aims to cover the most relevant issues of Human geography of Europe. Students actively participate on volunary chosen topics: political division of Europe, population and settlements, main trends in economy of Europe, geographical description of European subregions or particular model national state.

Recommended literature:
Cihová, J. a kol., 2005: English for Students of Public Administration, Regional Development, European Integration. Bratislava: Geografika. ISBN 80-969338-2-5.
Clark, A. N., 1998: Dictionary of Geography. Second edition. Penguin Books. ISBN 0-14-051388-4
Daniels, P., et al. 2005. An Introduction to Human Geography. Issues for the 21st Century. Pearson: Prentice Hall. ISBN 0-13-121766-6
Jordan, R.R., 1980: Academic Writing Course. London: Collins ELT. ISBN 0-00-370004-6
Swan, M., 2006: Practical English Usage. Oxford: OUP. ISBN 9780194420983
materials provided by the teacher

Course language:

Notes:

Course assessment
Total number of assessed students: 26

A	B	C	D	E	FX
65.38	3.85	3.85	15.38	11.54	0.0

Provides: RNDr. Stela Csachová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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.
Test 1 = 40 points, test 2 = 40 points, presentation = 20 points.
In order to be admitted to the final exam, a student has to score at least 65 points as a sum of both credit tests and academic presentation.
Exam test = 100 points.
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:
Rozvoj jazykových kompetencií študentov príslušného študijného odboru, upevňovanie a rozvíjanie všetkých jazykových zručností (hovorenie, písanie, čítanie, počúvanie) predovšetkým v odbornej/profesnej angličtine, na stredne pokročilej úrovni ovládania jazyka (B2).
Dôraz sa kladie na aktívne správne používanie odbornej/profesnej angličtiny.

Brief outline of the course:
ANGLICKÝ JAZYK PRE GEOGRAFOV:
Veda a výskum. Odbor geografia.
Planéta Zem. Naša slnečná sústava. Litosféra, hydrosféra, atmosféra, biosféra.
Zem - dynamická planéta. Tektonické platne. Sopečná činnosť.
Zemetrasenia.
Svetové oceány. Morské prúdy. Tsunami.
Veľký koralový útes.
Atmosféra - zloženie atmosféry.
Kontinenty. Európa - krajiny, národnosti.
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, alchímia
Nomenklatúra
Laboratórium a jeho vybavenie
Periodická tabuľka
Hmota a jej premeny
Organická chémia
Anorganická 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:

študijné materiálny dodané vyučujúcim
Velebná, V. English for Chemists.
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press. 2003.
Powel, M.: Dynamic Presentations. CUP, 2010
Armer, T.: Cambridge English for Scientists. CUP, 2011
Wharton J.: Academic Encounters. The Natural World, CUP: 2009.
Murphy, R.: English Grammar in Use. Cambridge University Press. 1994.
Redman, s.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press. 2003.
P. Fitzgerald : English for ICT studies, Garnet Publishing, 2011

Course language:

Notes:

Course assessment

Total number of assessed students: 2010

A	B	C	D	E	FX
31.44	25.82	18.71	11.59	9.65	2.79

Provides: PaedDr. Gabriela Bednáriková, Mgr. Marianna Škultétyová, Mgr. Zuzana Naďová, PhDr. Helena Petruňová, CSc.

Date of last modification: 01.09.2016

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 856

A	B	C	D	E	FX
7.71	14.84	31.54	27.69	12.73	5.49

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

Date of last modification: 08.09.2016

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ VBFM1/15	**Course name:** General Biophysics I

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

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Exam.

Learning outcomes:
To provide information about the object, significance and role of biophysics in science. The main emphasis will be given on the understanding of the principles determining the structure and function of the most important biological structures (nucleis acids, proteins, biomembranes) as well as on the thermodynamics and kinetics of selected chemical and biophysical processes.

Brief outline of the course:
The definition of biophysics and its role in the science. Intra- and inter-molecular interactions in biological systems. Function and structure of the important biomacromolecules (nucleic acids, proteins, biomembranes, sugars). Conformational transitions in biopolymers: helix-coil transition in DNA, denaturation of proteins, phase transitions in biomembranes.
Thermodynamics of biological processes. Gibbs energy and chemical equilibrium, chemical potential, binding constants of the ligand-macromolecule intractions, cooperativity of the binding between biological important molecules, membrane potential.
Kinetics of the chemical and biophysical processes. The principles of chemical kinetics, enzymatic reactions, inhibition of the enzymes, membrane transport, introduction to the pharmacokinetics.
Cell biophysics. The basic bioenergetic processes, oxidative phosphorylation, photosynthesis. Mechanisms of regulations and control processes in cells-the basic principles.
Medicinal biophysics. Biophysical principles of selected diagnostic and therapeutical methods.
Radiation and environmental biophysics. The influence of physico-chemical factors of the environment on the living systems.

Recommended literature:
1. M. B. Jackson, Molecular and cellular biophysics, Cambridge University Press, 2006.
2. M. Daune, Molecular biophysics - Structures in motion, Oxford University Press, 2004.
3. R. Glaser, Biophysics, Springer Verlag, 2001.
4. M.V. Volkenštein, Biofizika, Nauka, Moskva 1988.
5. W.Hoppe and W. Lohmann, Biophysics, Springer Verlag, 1988.
6. D.G. Nichols and S.J. Ferguson, Bioenergetics 3, Academic Press, Elsevier Science Ltd., 2002.
7. D. T. Haynie, Biological thermodynamics, Cambridge University Press, 2001.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 3

A	B	C	D	E	FX
33.33	33.33	33.33	0.0	0.0	0.0

Provides: doc. Mgr. Daniel Jancura, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ VFM1a/15	**Course name:** General Physics I

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Monitoring tests during the calculus lessons
1. in the 6th week
2.in the 12th week
Final assessment is based on th results of :
- oral examination
assessment of the calculus lessons (written tests, overall performance during the lessons)

Learning outcomes:
Basic knowledge about the mechanics, molecular physics and thermodynamics.

Brief outline of the course:
Basic knowledge of the calculus, vector algebra. Standards and units. Kinematics. Dynamics. The principle of relativity in the classical mechanics. Gravitation. Mechanics of many-particle systems. The motio of rigid bodies. Deformation, elasticity. Mechanics of fluids and gases. Laws of ideal gases. Kinetic theory. The thermodynamic laws. Statistical character of the second law. Entropy. Molecular phenomena in liquids and solids. Phase transitions.

Recommended literature:
Hajko V., Daniel-Szabó J.: Základy fyziky, VEDA, Bratislava 1983.
Veis Š., Maďar J., Martišovits V.: Všeobecná fyzika I., Mechanika a molekulová fyzika, ALFA Bratislava, 1987.
Fuka J., Široká M.: Obecná fyzika I / skriptum /, PF Univ. Palackého, Olomouc 1983.
Hlavička A., a kol.: Fyzika pre pedagogické fakulty, SPN, Praha 1971.
Hajko V., a kol.:Fyzika v príkladoch, ALFA Bratislava 1983.
Ilkovič D.: Fyzika, SVTL Bratislava, 1962.
Slaviček V., Wagner J.: Fyzika pro chemiky, SNTL Praha 1971.
Krempaský J.: Fyzika, ALFA Bratislava 1982.

Course language:
Slovak

Notes:

Course assessment Total number of assessed students: 165					
A	B	C	D	E	FX
29.09	16.36	19.39	11.52	20.61	3.03
Provides: doc. RNDr. Zuzana Ješková, PhD.					
Date of last modification: 03.05.2015					
Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/VFM1b/15	**Course name:** General Physics II

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15

Conditions for course completion:
Test.
Oral examination.

Learning outcomes:
To obtain a general view on basic electric magnetic phenomena and ability to solve basic problems of this subject.

Brief outline of the course:
Electric field in the free space. Work of the forces in the electrostatic field. Electrostatic field and steady current. Current in electrolytes, semiconductors, gasses and vacuum. Thermoelctric effects. Magnetic field in the free space. The interaction of moving charges with the electric current. Quasi steady electric field. Electromagnetic induction. Energy of magnetic field. AC current and circuits with ac current. Multiphase AC current. Rotating magnetic field. Electric effects in the substances. Magnetic properties of the substancies. Magnetic polarization. Diamagnetism and paramagnetism, Magnetic ordering. Ferromagnetism.

Recommended literature:
I. S. Grant, W.R. Phillips, Electromagnetism, John Wiley&Sons, Ltd, England, 1990

Course language:
english

Notes:

Course assessment
Total number of assessed students: 3

A	B	C	D	E	FX
33.33	0.0	0.0	0.0	0.0	66.67

Provides: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Adriana Zeleňáková, PhD., RNDr. Erik Čižmár, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ VFM1c/15	**Course name:** General Physics III

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

Number of credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚFV/VF1b/03 or ÚFV/VFM1b/15

Conditions for course completion:
Exam+ 2 succesfull test from seminars

Learning outcomes:
The objective is to acquaint the students with the basis of oscilations, waves and optics.

Brief outline of the course:
Undamped oscilations, Mathematical, Physical and Torsional pendulum, Damped oscilations, Fourier transformation, Forced oscilations. Waves, their generation, waves equation.Interference. Huyghens principle. Reflection, difraction. Doppler effect. Waves speed in materials. Acoustics. Geometrical optics. Mirrors, lens. Fotometry.
Light as electromagnetic wave. Dispersion, absorption, interference, difraction, polarization. Photon's theory of light. Law of emision and absorption, Planck's law of radiation. Lasers.

Recommended literature:
1. A. Hlavička et al., Fyzika pro pedagogické fakulty, SPN, 1971
2. R.P. Feynman et al., Feynmanove prednášky z Fyziky I,II,III, ALFA, 1985
3. D. Halliday et al.,Fyzika-Vysokoškolská učebnice obecné fyziky, VUTIUM, 2010
4. J. Fuka, B. Havelka, Optika a atómová fyzika, SPN,1961
5. A. Štrba, Všeobecná Fyzika 3 – Optika, ALFA, 1979

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 45

A	B	C	D	E	FX
31.11	22.22	26.67	15.56	4.44	0.0

Provides: prof. RNDr. Rastislav Varga, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ VFM1d/15	**Course name:** General Physics IV

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

Number of credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚFV/VF1c/10 or ÚFV/VF1c/12 or ÚFV/VFM1c/15

Conditions for course completion:
written tests
exam

Learning outcomes:
Basic knowledge about the atomic structure and spectra and nuclei, and elementary particles. Basic experimental methods in nuclear physics and passage of nuclear radiation through media.

Brief outline of the course:
Wave character of particles. De Broglie waves. Experimental evidence for de Broglie waves. Structure and models of atoms. Atomic spectra. Magnetic properties of atoms. X-ray spectra. Basic characteristics of the atomic nuclei. Nuclear forces and models. Radioactivity. Applications of radioactivity. Nuclear reactions. Elementary particles, basic properties and classification. Types of interactions. Resonances. Cosmic rays. Passage of particles through matter. Detectors. Accelerators.

Recommended literature:
1. Beiser A., Úvod do moderní fyziky, Praha, 1975.
2. Vanovič J.: Atómová fyzika, Bratislava, 1980.
3. Griffiths D. , Introduction to Elementary Particles, WILEY, 1987.
4. Úlehla I., Suk M., Trka Z.: Atómy, jádra, částice, Praha, 1990.
5. Síleš E., Martinská G.: Všeobecná fyzika IV, skriptá PF UPJŠ, 2. vydanie, Košice, 1992.
5. Hajko V. and team of authors, Physics in experiments, Bratislava, 1997.
6. Nosek D., Jádra a částice (Řešené příklady), Matfyzpress, MFF UK, Praha 2005,
7. Brandt S., The harvest of a century, Discoveries of modern physics in 100 episodes, Oxford, 2009.

Course language:
slovak and english

Notes:

Course assessment
Total number of assessed students: 5

A	B	C	D	E	FX
80.0	0.0	20.0	0.0	0.0	0.0

Provides: prof. RNDr. Stanislav Vokál, DrSc., RNDr. Janka Vrláková, PhD., RNDr. Adela Kravčáková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 603

A	B	C	D	E	FX
4.98	12.94	20.4	24.38	34.99	2.32

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 6

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: 254

A	B	C	D	E	FX
32.28	22.44	27.95	10.63	6.69	0.0

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 27

A	B	C	D	E	FX
11.11	29.63	25.93	14.81	18.52	0.0

Provides:

Date of last modification: 26.02.2016

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 37

A	B	C	D	E	FX
54.05	32.43	2.7	8.11	2.7	0.0

Provides: prof. Ing. Vladimír Sedlák, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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:
BAŠOVSKÝ, O., MLÁDEK, J. 1989: Geografia obyvateľstva a sídel. Prírodovedecká fakulta UK, Bratislava, 221.
CHALUPA, P., TARABOVÁ, Z. 1990: Geografie obyvatelstva, demografie, geografie sídel. MU, Brno.

MATLOVIČ, R. 2001: Geografia relígií. Fakulta humanitných a prírodných vied Prešovskej univerzity v Prešove. Prešov, 375.
MLÁDEK, J. 1992: Základy geografie obyvateľstva. SPN Bratislava, 230.
MLÁDEK, J. a kol. 2006: Atlas obyvateľstva Slovenska. UK Bratislava, 168.
MLÁDEK, J., KUSENDOVÁ, D., MARENČÁKOVÁ, J., PODOLÁK, P., VAŇO, B. 2006: Demogeografická analýza Slovenska. UK Bratislava, 222.
PAVLÍK, Z., RYCHTAŘÍKOVÁ, J., ŠUBRTOVÁ, A. 1986: Základy demografie. Academia Praha.
VOTRUBEC, C. 1980: Lidská sídla, jejich typy a rozmístnění ve světe. Academia Praha.
SHORT, J. R. 1994: Lidská sídla. Velká geografická encyklopedie světa. Nakladatelský dům OP Praha

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 591

A	B	C	D	E	FX
9.48	14.21	22.67	23.52	26.57	3.55

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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, systems and models of public administration, history of public administration on the territory of Slovakia, division of public administration - state government, self-government - local and regional, local economic development, financial aspects of local administative untis, local government reform, intermunicipal reform, the city of Košice , territorial-administrative division, system of public administration in model states.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 171

A	B	C	D	E	FX
23.98	33.33	18.13	15.2	8.77	0.58

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 257

A	B	C	D	E	FX
79.77	13.62	3.5	0.0	0.0	3.11

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 1025

A	B	C	D	E	FX
8.39	20.98	20.0	16.2	22.83	11.61

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: prof. RNDr. Peter Kollár, DrSc., 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 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: 126

A	B	C	D	E	FX
81.75	12.7	3.17	2.38	0.0	0.0

Provides: Mgr. Michal Gallay, PhD., RNDr. Ján Kaňuk, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 731

A	B	C	D	E	FX
60.6	13.82	12.72	8.76	3.42	0.68

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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.
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: 333

A	B	C	D	E	FX
16.22	22.82	26.73	22.22	11.41	0.6

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 516					
A	B	C	D	E	FX
7.75	23.84	29.84	25.97	10.85	1.74
Provides: prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD.					
Date of last modification: 18.02.2016					
Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 537

A	B	C	D	E	FX
86.59	7.08	3.91	0.56	0.93	0.93

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: prof. RNDr. Peter Kollár, DrSc., 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 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: 291

A	B	C	D	E	FX
3.44	8.59	16.49	36.43	29.55	5.5

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: prof. PhDr. Ladislav Tajták, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/UAS/13	**Course name:** Introduction to Astronomy

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

Number of credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
2 tests during term. Each test for 15 points. Minimal amounts of points for an exam is 20.
Oral examination and test.

Learning outcomes:
Acquaint students with basic astronomy and astrophysic contnceps, celestial coordinates, Solar system, formation and evolution of stars and galaxies

Brief outline of the course:
Subject of astronomy, celestial coordinates and their transformations, time and calendar, problem of 2 bodies, Astronomical telescopes, Solar system, radiation of stars and spectrum, properties of stars and their evolution, galaxies.

Recommended literature:

1. Čeman, R., Pittich, E., 2002, Vesmír 1 - Slnečná sústava, MAPA Slovakia
2. Čeman, R., Pittich, E., 2003, Vesmír 2 - Hviezdy - Galaxie, MAPA Slovakia
3. Grygar, J., Horský, Z., Mayer, P., 1979, Vesmír, Mladá fronta
4. Kleczek, J., 2002, Velká encyklopedie vesmíru, Academia
5. Pittich, E., Kalmančok, D., 1981, Obloha na dlani, Obzor
6. Vanýsek, V.: 1980, Základy astronomie a astrofyziky, Academia

Course language:

Notes:

Course assessment
Total number of assessed students: 13

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

Provides: doc. Mgr. Štefan Parimucha, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ UVF/05	**Course name:** Introduction to General Physics

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Active presentation during the lessons twice a year
Solved assignments
Positive results at two written tests

Learning outcomes:
Conceptual understanding of the key concepts of the topics of Mechanics and Molecular Physics gained with the help of problem solving, physical experiments and multimedial support that is inevitable precondition for the further study at University level. At the end of this course the student will be able to follow with the courses proceeding from the course General Physics I.

Brief outline of the course:
The subject is a supportive subject to the course General physics 1 - Mechanics and Molecular Physics. The content involves key concepts in mechanics and molecular physics with the help of school experiments, interactive multimedial teaching materials and physical tasks and problems. The aim is to help students to overcome difficulties connected with knowlege gained during the previous study towards the conceptual understaning of the University course content.

Recommended literature:
1. Sutton, R.M., Demonstration Experiments in Physics, AAPT, 2003
2. Pizzo, J.: Interactive Physics demonstration, AAPT, 2001
3. Cunningham, J, Herr, N.: Hands on Physics Activities, Jossey-Bass A Wiley Imprint, 1994
4. Halliday D., Resnick R., Walker J.: Fyzika. Část 1- 5., Vysokoškolská učebnica fyziky, VUTIUM, Brno, 2000
5. Walker, J.: The Flying Circus of Physics with answers, John Wiley&Sons, 2005
6. Hajko, V., Daniel-Szabó, J. a kol. Fyzika v príkladoch, Alfa, 1983

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 200

A	B	C	D	E	FX
37.5	16.5	23.5	15.0	7.0	0.5

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ UVF2/07	**Course name:** Introduction to General Physics II

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:
Active presentations duringf the lessons twice a year
Solved assignments
Postive results at two written tests.

Learning outcomes:
Conceptual understanding of the key concepts of the topics of Electricity and Magnetism with the help of problem solving, physical experiments and multimedial support that is inevitable precondition for the further study at University level. At the end of the course the studnet will be able to follow with the courses, proceeding from the course General physics II.

Brief outline of the course:
The subject is a supportive subject to the course General Physics 2 - Electricity and Magnetism. The content involves key concepts of electricity and magntism with the help of school experiments, interactive multimedial teaching materials and physical tasks and problems. The aim is to help students to overcome difficulties connected with knowledge gained during the previous study towards the conceptual understanding of the University course content.

Recommended literature:
1. Sutton, R.M., Demonstration Experiments in Physics, AAPT, 2003
2. Pizzo, J.: Interactive Physics demonstration, AAPT, 2001
3. Cunningham, J, Herr, N.: Hands on Physics Activities, Jossey-Bass A Wiley Imprint, 1994
4. Halliday D., Resnick R., Walker J.: Fyzika. Část 1- 5., Vysokoškolská učebnica fyziky, VUTIUM, Brno, 2000
5. Walker, J.: The Flying Circus of Physics with answers, John Wiley&Sons, 2005

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 167

A	B	C	D	E	FX
41.32	17.96	22.16	8.38	10.18	0.0

Provides: doc. RNDr. Zuzana Ješková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 3

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Participation in exercises, successfully processed award, graduation the final test. Credits will not be awarded to students, who will not have successfully processed award and does not pass the final test min. to 60%.

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:
RIEDLOVÁ, M., DEMEK, J., PECH, J. 1980: Úvod do studia geografie, dějiny geografie. Praha, SPN, 158 s.
DEMEK, J. 1987: Úvod do štúdia teoretickej geografie. Bratislava, SPN. 241 s.
KVITKOVIČ, J. 2000: Alexander von Humbolt - priekopník modernej geografie. Geografia, 8, 2, 73-78 s.
LUKNIŠ, M. 1987: prof. Ján Hromádka ako vedec, pedagóg a človek. Geografický časopis, 38, 2-3, 118-125 s.
TIBENSKÝ, J. a kol. 1987: Matej Bel - doba, život, dielo. Bratislava, Vyd. VEDA. 411 s.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 759

A	B	C	D	E	FX
9.09	11.46	27.54	26.61	23.72	1.58

Provides: prof. Mgr. Jaroslav Hofierka, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ ZMF/07	**Course name:** Introduction to Mathematics for Physicists

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
two control tests during semester, solving of three sets of problems, active participation.
Summary evaluation of active participation during semester, completed sets of problems and two tests

Learning outcomes:
The aim is the understanding and mastery of basic mathematical concepts and skills of the vector, differential and integral calculus and ordinary differential equations required for introductory physics course.

Brief outline of the course:
The course introduces basic mathematical background to general physics courses: Mechanics & Molecular Physics and Electricity & magnetism.
The content deals with understanding the basic concepts of vector algebra and analysis, differential and integral calculus and differential equations.
After the course student should be familiar with the concepts: vector, scalar, vector and scalar fields, the function of one variable, derivative, integral, differential equation; to be able to interpret these concepts in real phenomena and acquire basic mathematical skills related to these concepts in problems.

Recommended literature:
1. Hughes-Hallet, D. et al, Applied Calculus, 4th ed., John Wiley & Sons, 2010
2. Stewart, J., Calculus: early transcendentals, 6th ed., Brooks Cole, 2008
3. Zeľďovič, J.B., Jaglom, I.M.: Higher Math for Beginners (Mostly Physicists and Engineers), Mir, Moskva, 1988

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 174

A	B	C	D	E	FX
39.66	18.97	20.69	10.92	9.77	0.0

Provides: doc. RNDr. Jozef Hanč, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 733

abs	n
96.32	3.68

Provides: doc. RNDr. Mária Kožurková, CSc., prof. RNDr. Katarína Cechlárová, DrSc., prof. RNDr. Beňadik Šmajda, CSc., prof. Mgr. Jaroslav Hofierka, PhD., doc. RNDr. Ivan Žežula, CSc., doc. RNDr. Vladimír Zeleňák, PhD., doc. RNDr. Jozef Hanč, PhD., RNDr. Ondrej Krídlo, PhD., Mgr. Vladislav Kolarčik, PhD., RNDr. Janetta Nestorová-Dická, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 256

A	B	C	D	E	FX
46.88	30.08	14.45	6.64	1.95	0.0

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

Date of last modification: 08.09.2016

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MTFa/15	**Course name:** Mathematics I for physicists

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

Number of credits: 5

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Two written tests and one homework with excercises from the whole semester. The final evaluation is given according to the results from the semester and in view of the results of the written final test.

Learning outcomes:
To obtain basic knowledge on functions of one variable and their properties; to be able to apply the theory in concrete excercises.

Brief outline of the course:
Functions, basic properties. Elementary functions. Continuous functions. Limits. Derivation and its geometric aplications. Theorems about continuous functions. Behaviour of functions. Indefinite integrals, basic methods of integration. Definite integral and its applications.

Recommended literature:
S. Lang: A First Course in Calculus, Springer Verlag, 1998

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 304

A	B	C	D	E	FX
7.57	8.22	13.82	19.41	30.26	20.72

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Mária Timková, PhD., RNDr. Michaela Vrbjarová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MTFb/15	**Course name:** Mathematics II for physicists

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

Number of credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/MTFa/15

Conditions for course completion:
Two written tests and one homework with excercises from the whole semester, final test.
According to the results from the semester and in view of the results of the written final test.

Learning outcomes:
To develop acquired knowledge of mathematical analysis with knowledge on linear algebra and functions of more variables. To learn to solve basic types of differential equations and know how to use them to model real-world phenomena. To learn to solve problems about infinite series.

Brief outline of the course:
System of linear algebraic equations, determinants. Functions of more variables, continuity and limits, partial derivations, local extremes of functions of two variables. Some types of differential equations. Series, functional series, Taylor and MacLaurin series.

Recommended literature:
1. S. Lang: A First Course in Calculus, Springer Verlag, 1998
2. Huťka V., Benko E., Ďurikovič V.: Matematika, Alfa, Bratislava 1991.
3. Došlá, Z.: Matematika pro chemiky, 1.díl. Masarykova univerzita, Brno, 2010.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 171

A	B	C	D	E	FX
9.94	15.79	12.28	26.32	30.41	5.26

Provides: doc. RNDr. Stanislav Lukáč, PhD., RNDr. Ingrid Semanišinová, PhD., Mgr. Tadeáš Gavala

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ SDFM1/15	**Course name:** Methods of Data Processing in Physics

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

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Five tasks in Matlab/Octave.
Exam interview - 60%, tasks - 40%.

Learning outcomes:
Methods of data processing in physics.

Brief outline of the course:
1. Numerical methods.
2. Regression analysis.
3. Computational physics.

Recommended literature:
Buchanan J. L., Turner P. R.: Numerical Methods and Analysis. McGraw-Hill, Inc., New York, 1992. Siegel A. F.: Statistics and Data Analysis. An Introduction. J. Wiley&Sons, NY, 1988.

Course language:
slovak, basics of english

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: RNDr. Erik Čižmár, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ MFYU/15	**Course name:** Methods of Physical Problems Solving
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Successfull in two writing exams oriented on problem solving.	
Learning outcomes: Student is able to use the selected method of problem solving. He(she) is experienced in solving problems from physics olympiad with comments. Student knows how to use multimedia support and modelling for problem solving.	
Brief outline of the course: 1. Clasification of selected physics problem solving methods 2. Mechanics 3. Multimedia support for problem solving 4. Hydromechanics 5. Physics problems series 6. Termodynamics 7. Physics olympiad 8. Physics olympiad problem solving with comments 9. Electric current 10. Qualitative physics problems 11. Mechanical oscillations 12. Dynamics modeling and problem solving	
Recommended literature: Halliday, D., Resnick, R., Walker, J.: Fyzika 1-5, Akademické nakladatelství, VUTIUM, ISBN: 8021418680, 2007	
Course language: Slovak, English	
Notes:	

Course assessment
Total number of assessed students: 2

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

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 3

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Participation in exercises, presentation of seminar topics, graduation the final test. Credits will not be awarded to students, who will not have successfully processed and presented the seminar topic and does not pass the final test min. to 60%.

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. a kol. 2012: Mikrogeografia - krajina okolo nás. FPV UKF Nitra, 185 s.
KANDRÁČOVÁ, V., MICHAELI, E. 1998: Ľubotice. OÚ Ľubotice. 116 s.
LAUKO, V. 1997: Fyzická geografia Slovenska 1. UK, Bratislava. 148 s.
LUKNIŠ, M. 1977: Geografia krajiny Jura pri Bratislave. UK, Bratislava. 211 s.
Základná mapa SR 1: 10 000
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.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 21

A	B	C	D	E	FX
52.38	33.33	14.29	0.0	0.0	0.0

Provides: prof. RNDr. Peter Spišiak, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ MTFM/15	**Course name:** Modern Trends in Physics

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

Number of credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
test
test

Learning outcomes:
Presentation of scientific goals and experimental facilities on the Institute of Physics. Discussion of new trends in physics of micro-world, astrophysics, biophysics and physics of condensed matter.

Brief outline of the course:
The present state of the micro-world physics – fundamental particles and the interaction forces. Theoretical description of the micro-world – the Standard Model. Experimental tests of the Standard Model - the discovery of neutral currents and intermediate W+-, Z0 bosons. Heavy ion collisions and the search for new state of matter - quark gluon plasma - on the most powerful accelerators RHIC (Relativistic Heavy Ion Collider), Brookhaven National Laboratory) , USA and on the constructed LHC (Large Hadron Collider), CERN, Geneva. Big Bang and the quark gluon plasma. Some open questions – search for Higgs boson, responsible for the mass of fundamental particles and quark gluon plasma in laboratory conditions.
Practical activities – demonstration of the knowledge from lectures at identification of the real Z0 decay events in experimental data from the LEP accelerator, CERN, Swizterland.
New trends in astrophysical investigation: Solar system planets and exoplanets; cataclysmic variables, blazers and polars; black holes; quasars and active galactic nuclei, clusters of galaxies and web structure of Universe; gravitational lensing, dark matter and dark energy; gamma ray bursts.
Topical problems in biophysics
Low temperatures as a tool for the study of physical properties of matter. Non-Fermi liquid materials... Geometrically frustrated systems. Quantum tunneling in molecular magnets. Application of quantum magnets. Excursion in the Centre of Excellence of Low Temperature Physics.
Soft magnetic nanostructure materials prepared by milling and alloying: magnetic properties of small particles, magnetization processes, domain structure, milling and alloying.

Recommended literature:
S. Chikazumi: Physics of Magnetism, J. Willey and Sons, Inc. New York, London, Sydney, 1997.
C. Suryanarayana, Progress in Materials Science 46 (2001), 1-184

F. Close : The Cosmic Onion, 1990
Cindy Schwarz :A Tour of the Subatomic Zoo, 1997
Frank Close, Michael Marten, Christine Sutton : The Particle Odyssey-
A Journey to the Heart of Matter, 2002
http://vk.upjs.sk/~epog/2006/
Scientific journals

Course language:
english

Notes:

Course assessment
Total number of assessed students: 4

abs	n
100.0	0.0

Provides: Dr.h.c. prof. RNDr. Alexander Feher, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ NJ//13	**Course name:** Naval Yachting
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 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: 2

abs	n
100.0	0.0

Provides: doc. Mgr. Rastislav Feč, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 67

A	B	C	D	E	FX
40.3	16.42	19.4	7.46	14.93	1.49

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 590

A	B	C	D	E	FX
2.37	4.07	18.64	27.8	39.32	7.8

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 548

A	B	C	D	E	FX
28.83	24.82	27.37	11.13	7.3	0.55

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 584

A	B	C	D	E	FX
89.04	8.39	1.37	0.17	0.51	0.51

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 294

A	B	C	D	E	FX
18.71	29.59	30.27	14.29	4.76	2.38

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FDE/15	**Course name:** Physics in Demonstration Experiments

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Seminar work – a project dealing with hands-on experiments and their role in Physics teachig.

Learning outcomes:
The goal of the course is to get better the understanding of basic physical concepts and phenomena through demonstrational physical experiments.

Brief outline of the course:
The course is aimed at the conceptual understanding of basic physical concepts and phenomena with the help of selected demonstrational experiments. The experiments concern the content of the subject Introductory physics and their realization is based on students´ active participation.

Recommended literature:
1. D.Halliday, R.Resnick, J.Walker: Fyzika, VUTIUM, Brno, 2000
2.K.Cummings, P.W.Law, E.F.Redish, P.J.Cooney: Understanding Physics,
John Wiley & Sons, Inc., 2004
3.P.G.Hewitt: Conceptual Physics, tenth edition, Pearson, Addison Wesley, 2006
4.Ľ.Onderová, M.Kireš, Z.Ješková, J.Degro: Praktikum školských pokusov II, PF UPJŠ, 2004

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 4

A	B	C	D	E	FX
75.0	0.0	0.0	25.0	0.0	0.0

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., RNDr. Ľudmila Onderová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ ZFP1a/03	**Course name:** Physics Practical I

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

Number of credits: 3

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:
The active work during semester and hand in all reports.
Vindication of reports.

Learning outcomes:
Developing proper laboratory habits, skills and verify their theoretical knowledge.

Brief outline of the course:
The goal of this laboratory exercises is to familiarize the students with measurement methods, with kinds and calculus of mistakes, with measured results processing, and with presentation of results. The students gain practical skills, and verify their theoretical knowledge of first semester introductory physics course. They develop proper laboratory habits.
Laboratory assignment:
1. Density measurements of liquids and solids.
2. Radius measurements of spherical cap. Measurements of surface using planimeter.
3. Gravitational acceleration measurements using mathematical and physical pendulum.
4. Moment of inertia measurement using physical and torsion pendulum.
5. Measurements of Young's modulus.
6. Measurement of coefficient of viscosity.
7. Measurement of the speed of sound.
8. Measurements of general gas constant and Boltzmann constant.
9. Measurements of thermal expansivity of air.
10. Measurements of thermal capacity of matter.
11. Measurement of the surface tension.

Recommended literature:
Degro, J., Ješková, Z., Onderová, Ľ., Kireš, M.: Základné fyzikálne praktikum I. (Basic physical measurements I), Ed. PF UPJŠ Košice 2007.
Standards STN ISO 31. Slovenský inštitút normalizácie v Bratislave (Slovak institute of technical standards in Bratislava),1997.

Ješková, Z.: Computer based experiments in thermodynamics using IP COACH,ed. PF UPJŠ in Košice, 2004.

Course language:
english

Notes:

Course assessment
Total number of assessed students: 185

A	B	C	D	E	FX
55.14	27.03	11.89	4.86	1.08	0.0

Provides: doc. RNDr. Adriana Zeleňáková, PhD., doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., doc. RNDr. Ján Füzer, PhD., doc. RNDr. Jozef Hanč, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ZFP1b/03	**Course name:** Physics Practical II

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

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚFV/ZFP1a/03

Conditions for course completion:
Meausirnig of experimental tasks, their appreciation in the form of a written report, defending. Further evaluation is also a good theoretical preparation for the measurement of the task.

Learning outcomes:
The objectives of the laboratory are:
a. To gain some physical inside into some of the concepts presented in the lectures.
b. To gain some practice in data collection, analysis and interpretation of resumance.
c. To gain experience and report writing presentation and results.

Brief outline of the course:
Students on practical exercises are working in pairs experimental tasks in the field of electrical, electromagnetic and magnetic properties of matters.

Recommended literature:
Tumanski S, Handbook of magnetic measurements, CRC press, 2011.
Fiorillo F, Characterization and Measurement of Magnetic Materials, Elsevier, 2004.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 155

A	B	C	D	E	FX
61.94	20.65	14.84	1.94	0.0	0.65

Provides: doc. RNDr. Adriana Zeleňáková, PhD., doc. RNDr. Ján Füzer, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ ZFP1c/14	**Course name:** Physics Practical III

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

Number of credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Measurements of experimental tasks, their evaluation in the form of a written report, which must be defended. As a part of evaluation there is is also a good theoretical preparation for the measurement of the task.

Learning outcomes:
To gain some physical inside into some of the concepts presented in the lectures. b. To gain some practice in data collection, analysis and interpretation of resumance. c. To gain experience and report writing presentation and results.

Brief outline of the course:
Oscilations. Pendulum. Composition and decomposition of oscillations. Resonance. The speed of sound. Refractive index. Lense's focal length. Interference. Diffraction. Diffraction and reflection of waves. Polarization. The speed of light. Quantum optics.

Recommended literature:
Degro,J., Ješková, Z., Onderová,Ľ., Kireš,M.: Základné fyzikálne praktikum I, PF UPJŠ Košice, 2006
P. Kollár a kol. Základné fyzikálne praktikum II, PF UPJŠ Košice, 2006
J. Brož Základy fysikálních měření, SPN Praha, 1981.

Course language:
slovak or english

Notes:

Course assessment
Total number of assessed students: 12

A	B	C	D	E	FX
83.33	8.33	8.33	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., doc. RNDr. Ján Füzer, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ ZFP1d/14	**Course name:** Physics Practical IV

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

Number of credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
good theoretical preparation for measurement of the tasks, written tests,measurements of the experimental tasks, written reports of measurements

Learning outcomes:
Practice in nuclear physics.

Brief outline of the course:
Introduction to measurements. Dosimetry measurements. Analysing power of coincidence circuit by random coincidences. Statistic distribution of measured quantities. Measurement time scale selection. Absorption of beta rays. Backward scattering of beta rays. Scintillation gamma spectrometer. Determination of 60Co preparat activity using beta-gamma coincidences. Emulsion detector. Franck Hertz experiment. Beta - spectroscopy.Energy dependence of the gamma-absorption coefficient.

Recommended literature:
1. J.Vrláková, S.Vokál: Základné fyzikálne praktikum III, skriptá PF UPJŠ, Košice, 2012, dostupné
na
http://www.upjs.sk/public/media/5596/Zakladne-fyzikalne-praktikum-III.pdf

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 23

A	B	C	D	E	FX
86.96	13.04	0.0	0.0	0.0	0.0

Provides: RNDr. Janka Vrláková, PhD., RNDr. Adela Kravčáková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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 the continuous and final control. The continuous control is carried out in the form of tasks on an 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 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: 381

A	B	C	D	E	FX
21.0	21.26	24.93	21.78	6.56	4.46

Provides: prof. Ing. Vladimír Sedlák, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 102

A	B	C	D	E	FX
76.47	0.98	4.9	5.88	7.84	3.92

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 14

A	B	C	D	E	FX
85.71	7.14	0.0	0.0	7.14	0.0

Provides: Mgr. Jozef Benka, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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:** Practical course of Hydrology

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

Number of credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 42

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

Provides: RNDr. Dušan Barabas, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 43

A	B	C	D	E	FX
4.65	6.98	37.21	25.58	9.3	16.28

Provides: Prof. PhDr. Oľga Orosová, CSc., PhDr. Anna Janovská, PhD., Mgr. Lucia Hricová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 32

A	B	C	D	E	FX
40.63	28.13	25.0	6.25	0.0	0.0

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/KVM/15	**Course name:** Quantum Mechanics I.

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

Number of credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To become familiar with elementary principles of quantum mechanics and to illustrate its possible applications on selected examples.

Brief outline of the course:
A subject matter, experimental and theoretical foundations of quantum mechanics (QM). Basic axioms of QM. Schrödinger equation and its solution for a square potential well, harmonic oscillator and spherically symmetric potentials. Tunnel effect and over-barrier reflection. Spin and Pauli matrices. Systems of identical particles, bosons, fermions and Pauli exclusion principle.

Recommended literature:
1. Ľ. Tóth, M. Tóthová, Kvantová a štatistická fyzika I, Rektorát Univerzity P. J. Šafárika, 1982. (in Slovak language)
2. Ľ. Skála, Úvod do kvantovej mechaniky, Academia, Praha, 2005. (in Czech language)
3. J. Pišút, L. Gomolčák, Úvod do kvantovej mechaniky, Bratislava 1983. (in Slovak language)
4. W. Greiner, Quantum Mechanics, 4th edition, Springer, Berlin, 2000.
5. A. C. Philips, Introduction to Quantum Mechanics, Wiley, Weinheim, 2003.
6. D. J. Griffiths, Introduction to Quantum Mechanics, Prentice Hall, New Jersey, 1995.

Course language:
EN - english

Notes:

Course assessment
Total number of assessed students: 6

A	B	C	D	E	FX
33.33	0.0	33.33	16.67	0.0	16.67

Provides: doc. RNDr. Jozef Strečka, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 270

A	B	C	D	E	FX
40.37	30.37	20.37	7.04	1.11	0.74

Provides: prof. RNDr. Peter Spišiak, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 7	

abs	n
57.14	42.86

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: prof. RNDr. Peter Kollár, DrSc., 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 of bachelor work
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Verification of acquired basic methodologic and formal procedures of the final thesis creation by presentation (70% of rating) and written examination (30%). To obtain A grade, weighted average of the both parts of examination must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain less than 50% from any of both parts of examination.	
Learning outcomes: Mastering basic theoretical, methodological and formal scientific procedures of bachelor thesis creation.	
Brief outline of the course: The content and form of selected parts of thesis writing (abstract, introduction, conclusion, etc.) Ethics and culture of writing diploma thesis, citations and references, types of sources (printed, electronic, etc.). Formal aspects of the thesis. Linguistic adjustment (terminology, stylistics, syntax, grammar, typography). Rules of presentation of the thesis. Presentation of current results and state of diploma thesis.	
Recommended literature: HOVORKA, D., KOMÁREK, K., CHRAPAN, J. 2011: Ako písať a komunikovať. Martin (Vydavateľstvo Osveta), 247 s. KATUŠČÁK, D. 2008: Ako písať záverečné a kvalifikačné práce. Nitra (Enigma), 162 s. ÚTVAR REKTORA UPJŠ (2011): Smernica č. 1/2011, Dostupné na internete: <http://www.upjs.sk/public/media/2438/smernica-1-2011.pdf>, 25 s.	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 283

A	B	C	D	E	FX
94.35	3.89	0.71	0.0	1.06	0.0

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 of bachelor work

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

Number of credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:
Verification of acquired methodological and formal procedures of the creation of bachelor thesis by the presentation of current thesis creation by presentation of own bachelor thesis (100% of rating). To obtain A grade, the rating os student's presentation must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain rating less than 50%.

Learning outcomes:
Acquired skills to apply theoretical, methodological and formal scientific procedures of diploma thesis creation.

Brief outline of the course:
The seminary is focused to the topics of individual bachelor thesis. Students present current state of their thesis, its content and its particular parts. Each bachelor thesis is discussed at scientific level.

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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 247

A	B	C	D	E	FX
79.35	14.17	4.45	0.81	0.4	0.81

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 15

A	B	C	D	E	FX
26.67	20.0	40.0	6.67	6.67	0.0

Provides: Mgr. Zuzana Boberová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 0

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

Provides: prof. PhDr. Marcela Gbúrová, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 125

A	B	C	D	E	FX
20.8	21.6	26.4	22.4	8.0	0.8

Provides: Mgr. Eva Černáková, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 2

Recommended semester/trimester of the course: 1.

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: 7947

abs	n	neabs
87.96	8.12	3.93

Provides: PaedDr. Imrich Staško, doc. PhDr. Ivan Šulc, CSc., doc. Mgr. Rastislav Feč, PhD., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., PaedDr. Milena Švedová, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Lucia Kršňáková, PhD., Mgr. Dávid Kaško

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 credits: 2

Recommended semester/trimester of the course: 2.

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: 7437

abs	n	neabs
85.03	10.93	4.03

Provides: PaedDr. Imrich Staško, doc. Mgr. Rastislav Feč, PhD., doc. PhDr. Ivan Šulc, CSc., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., PaedDr. Milena Švedová, 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.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 4650

abs	n	neabs
89.63	4.71	5.66

Provides: PaedDr. Imrich Staško, doc. Mgr. Rastislav Feč, PhD., doc. PhDr. Ivan Šulc, CSc., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, doc. PaedDr. Ivan Uher, PhD., PaedDr. Milena Švedová, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Lucia Kršňáková, PhD., Mgr. Dávid Kaško

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 3884

abs	n	neabs
85.79	6.77	7.44

Provides: PaedDr. Imrich Staško, doc. Mgr. Rastislav Feč, PhD., doc. PhDr. Ivan Šulc, CSc., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, PaedDr. Milena Švedová, 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.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ STA1N/15	**Course name:** Statistical Physics

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

Number of credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚFV/KVM/08 or ÚFV/KVM/15

Conditions for course completion:
Written test - maximum 30 points.
Oral exam . maximum 70 points

Learning outcomes:
To acquaint students with basic principles of statistical mechanics and to illustrate possibilities of its applications in selected cases.

Brief outline of the course:
Basic laws of thermodynamics. The phase space, statistical ensemble, distribution function, canonical invariance of the phase volume. Liouville theorem, the ergodic problem and Tolman hypothesis. Microcanonical, canonical and grandcanonical enesembles. The virial and equipartition theorem. Applications of statistical physics.

Recommended literature:
1) L. Reichl, A modern Course in Statistical Mechanics, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim (2009).
2.) R.K. Pathria, Statistical Mechanics, Butterworth.Heinemann, Oxford (2001).

Course language:
Slovak, English

Notes:

Course assessment
Total number of assessed students: 13

A	B	C	D	E	FX
30.77	15.38	23.08	15.38	15.38	0.0

Provides: prof. RNDr. Michal Jaščur, CSc., RNDr. Jana Čisárová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ SVL1/03	**Course name:** Structure and Properties of Solids

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

Number of credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
50% maintained output, written test
50% final exam

Learning outcomes:
To explain basic problems of Solid State physics. The course is mainly oriented on fundamental type of lattices, symetry and crystal structure, X.ray diffractometry, Thermal properties, mechanical properties and conductivity of solids. The course alows to continue education in specialized topis of Condensed Matter like: Magnetic properties, Low temperature physics, Experimental methods of CM, Semiconductors atc.

Brief outline of the course:
Periodic array of atoms. Fundamental type of lattices. Index systems for crystal planes. Simple crystal structure. Symetry and crystal structure. Point and space groups. Crystal binding and elastic constants. Wave diffraction and the reciprocal lattice. X.ray diffractometry. Brag´s law, Laue conditions, scatering of x-rays, Neutrons and neutron scattering, CW - diffractometer, Ewald´s sphere, Diffraction on powder samples, Structure factor, Ocupation factor, Atomic displacement factor. Thermal properties. Phonon heat capacity, thermal conductivity. Free electron Fermi gas. Energy bands. Semiconductor crystals. Superconductivity.

Recommended literature:
1. Ch. Kittel, Solid State Physics,Springer,1985.
3.Fundamentals of Powder Diffraction and Structural Characterization of Materials, Vitalij K. Pecharsky & Peter Y. Zavalij , Kluwer Academic Publishers, 2003.
4.Structure Determination from Powder Diffraction Data, Edited by W.I.F. David, K. Shankland, L.B. McCusker, C. Bärlocher, Oxford University Press, 2006

Course language:
english

Notes:

Course assessment
Total number of assessed students: 37

A	B	C	D	E	FX
45.95	18.92	16.22	13.51	2.7	2.7

Provides: prof. RNDr. Pavol Sovák, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 19	
abs	n
100.0	0.0
Provides: doc. RNDr. Stanislav Lukáč, PhD., doc. RNDr. Jozef Hanč, PhD., doc. RNDr. Ľubomír Šnajder, PhD.	
Date of last modification: 03.05.2015	
Approved: prof. RNDr. Peter Kollár, DrSc., 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:** Students scientific conference of geography

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

Number of credits: 4

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
After choosing a topic suggested by supervisors implying a geographical problem, the students will work on the topic, write a thesis and defense it before the committee.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 145

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

Provides: doc. RNDr. Zdenko Hochmuth, CSc., prof. RNDr. Peter Spišiak, CSc., RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., RNDr. Janetta Nestorová-Dická, PhD., Mgr. Marián Kulla, PhD., Ing. Katarína Bónová, PhD., RNDr. Stela Csachová, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 92

abs	n
35.87	64.13

Provides: Mgr. Peter Bakalár, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., 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:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 251

abs	n
43.82	56.18

Provides: Mgr. Marek Valanský, MUDr. Peter Dombrovský
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ TMEU/15	**Course name:** Theoretical Mechanics

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

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15

Conditions for course completion:
Two tests to deal with specific tasks mechanics.
Final examination.

Learning outcomes:
To acquaint students with principles of the theoretical mechanics.

Brief outline of the course:
Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body.

Recommended literature:
1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970.
2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976.
3. Strelkov S.P.: Mechanics, Mir Publishers, Moscow, 1985.
4. Greiner W.: Classical Mechanics, Springer-Verlag, Berlin, 2010.
5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970.
6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 4

A	B	C	D	E	FX
50.0	25.0	0.0	25.0	0.0	0.0

Provides: prof. RNDr. Andrej Bobák, DrSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 201

A	B	C	D	E	FX
23.38	32.34	28.36	9.45	1.49	4.98

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

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/TEP1/03	**Course name:** Theory of the Electromagnetic Field

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚFV/VFM1b/15 or ÚFV/VF1b/03

Conditions for course completion:
Two tests to deal with specific tasks theory of the electromagnetic field.
Examination.

Learning outcomes:
To acquaint students with principles of a theory of the electromagnetic field.

Brief outline of the course:
Maxwell equations in vacuum. Scalar and vector potentials. Conservation laws. Electrostatic field. Static magnetic field. Maxwell equations in macroscopic media. Quasistatic electromagnetic field. Electromagnetic waves. Radiation of electromagnetic waves.

Recommended literature:
1. Jackson J.D.: Classical Electrodynamics, John Wiley, New York, 1975.
2. Rao N.N.: Basic Electromagnetics with Applications, Prentice-Hall, New Jersey, 1972.
3. Greiner W.: Classical Electrodynamics, Springer-Verlag, New York, 1998.

Course language:
1. Slovak,
2. English

Notes:

Course assessment
Total number of assessed students: 248

A	B	C	D	E	FX
27.02	8.06	17.74	23.39	15.73	8.06

Provides: prof. RNDr. Andrej Bobák, DrSc., RNDr. Tomáš Lučivjanský, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Kollár, DrSc., 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 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: 81

abs	n
32.1	67.9

Provides: PaedDr. Imrich Staško, doc. PhDr. Ivan Šulc, CSc.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Kollár, DrSc., doc. RNDr. Zdenko Hochmuth, CSc.