COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ABSP/14	**Course name:** ABAP basics

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., II., N

Prerequisities: ÚINF/ZTSP/14 or ÚINF/SAP1a/06

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Principles of programming in ABAP, declaration of variables, the basic syntax of the language ABAP Open SQL, ABAP Workbench navigation, ABAP editor, arithmetic, logic conditions, string operations, cycles, test programs using a debugger, an overview of the most important commands of ABAP, definition elementary and structured data objects, functional groups and function modules.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 24

abs	n
95.83	4.17

Provides: RNDr. Štefan Pero

Date of last modification: 18.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ OPSP/14	**Course name:** ABAP object and dialog programming
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:	
Course level: I., II., N	
Prerequisities: ÚINF/RASP/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: Screen, function codes, local and global classes, inheritance, polymorphism.	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 20	

abs	n
50.0	50.0

Provides: RNDr. Štefan Pero	
Date of last modification: 18.02.2014	
Approved: prof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ RASP/14	**Course name:** ABAP reporting

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., II., N

Prerequisities: ÚINF/ABSP/14 or ÚINF/ABA/08

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Reading database tables, selection screens, events, declarations and branching of programs, working with internal tables, function modules: upload, download and module creation, code structure, forms and includes.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 20

abs	n
80.0	20.0

Provides: RNDr. Štefan Pero

Date of last modification: 18.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SAP1b/06	**Course name:** Administration of mySAP system

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: II.

Prerequisities: ÚINF/SAP1a/06

Conditions for course completion:
Evakuation of particular tasks.
Test

Learning outcomes:
To provide an introduction to the administration techniques of mySAP system.

Brief outline of the course:
Fundamentals (System Logon, Configuring SAP Logon), Starting and Stopping (Starting SAP/ Database, Stopping SAP / Database), Systemconfiguration (Parameters in SAP, Parameters in Database, Background Tasks(Scheduling Background Jobs, Monitoring of Background Jobs), Database Administration (Extend Tablespaces).

Recommended literature:
http://www.sap.com/

Course language:

Notes:

Course assessment
Total number of assessed students: 57

A	B	C	D	E	FX
49.12	26.32	12.28	8.77	0.0	3.51

Provides: RNDr. Jozef Studenovský, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/AOS1/07	**Course name:** Administration of OS

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., II.

Prerequisities: ÚINF/OSY1/11

Conditions for course completion:

Learning outcomes:
To be able to install Linux based system, divide disks, to know how to install, configure and manage several network deamons.

Brief outline of the course:
Introduction to OS Linux, history, communication interfaces, directory structure, devices, user administration, UID, GID, permissions, text editors, common commands, installation, LILO, GRUB, configuration after installation, division of disk space, mounting, backups, starting system, crontab, network connection configuration, network monitoring, firewall. Deamons and systems services SSH, Apache, FTP, Samba, NFS, NTP, postfix/sendmail, DHCP, DNS. Compiling the Linux core, configuration, testing.

Recommended literature:
NEMETH, E., SNYDER, G., HEIN, T. R.: Linux Administration Handbook, Prentice Hall PTR, 2002
SIEVER, E., WEBER, A., FIGGINS, S., LOVE, R., ROBBINS, A.: Linux in a Nutshell, 5th Edition, 2005

Course language:

Notes:

Course assessment
Total number of assessed students: 64

A	B	C	D	E	FX
51.56	23.44	3.13	6.25	7.81	7.81

Provides: RNDr. Peter Gurský, PhD., RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ASSP/14	**Course name:** Administration of SAP system
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: 4., 6.	
Course level: I., II., N	
Prerequisities: ÚINF/ZLSP/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: Fundamentals (System Logon, Configuring SAP Logon), Starting and Stopping (Starting SAP/ Database, Stopping SAP / Database), System configuration (Parameters in SAP, Parameters in Database, Background Tasks(Scheduling Background Jobs, Monitoring of Background Jobs), Database Administration (Extend Tablespaces).	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 11	

abs	n
100.0	0.0

Provides: RNDr. Štefan Pero	
Date of last modification: 17.02.2014	
Approved: prof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 7

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities: ÚMV/ALGa/10

Conditions for course completion:
Exam

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

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

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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 261

A	B	C	D	E	FX
9.96	7.66	9.58	14.56	41.38	16.86

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Katarína Furcoňová, PhD., RNDr. Anna Mišková, RNDr. Peter Hudák, PhD.

Date of last modification: 14.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/APA1/09	**Course name:** Approximation algorithms

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: 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: 110

A	B	C	D	E	FX
19.09	14.55	24.55	18.18	22.73	0.91

Provides: prof. RNDr. Viliam Geffert, DrSc., doc. RNDr. Gabriel Semanišin, PhD., RNDr. Ondrej Krídlo, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/AFJ1b/00	**Course name:** Automata and formal languages

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

Number of credits: 5

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities: ÚINF/AFJ1a/03

Conditions for course completion:
Test and oral examination.

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

Brief outline of the course:
Greibach normal structure of contextfree gramars.Deterministic pushdown automata. Context-sensitive grammars and linearly-bounded Turing machines. Deterministic linearly-bounded Turing machines. Space bounded machines. Phrase-structure grammars and Turing machines. Post correspondence problem. Undecidable problems in the theory of formal languages.

Recommended literature:
J.E.Hopcroft and J.D.Ullman. Formal languages and their relation to automata. Addison-Wesley. (Slovak translation published by ALFA, Bratislava, 1978).
M.Chytil. Automata and grammars. SNTL, 1984. (In Czech).
J.van Leeuwen (ed.): Handbook of theoretical computer science. North-Holland, 1990.

Course language:

Notes:

Course assessment
Total number of assessed students: 471

A	B	C	D	E	FX
37.58	13.8	20.59	18.68	6.37	2.97

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

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ BIOE1/02	**Course name:** Bioenergetics

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: 2., 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide the introduction to the fundamental bioenergetic processes in the biological organisms. The emphasis will be on the description of the structure and function of the biomacromolecules involving in the processes of the oxidative phosphorylation. The principles of the membrane transport in the biological systems will be provide as well.

Brief outline of the course:
Energy in the biosphere. Fenomenology of bioenergetical processes. Control and regulation in bioenergetics. Chemiosmotic theory. Structure and function of the respiratory chain. Oxidative phosphorylation. The enzymes of the respiratory chain. Structure and function of NADH dehydrogenase (complex I), succinate dehydrogenase (complex II), cytochrome bc1 (complex III) and cytochrome c oxidase (complex IV). Formation of the mitochondrial proton gradient. Photosynthesis-basic informations and mechanisms. Thermodynamics and kinetics of membrane transport. Carriers, pumps and channels in the biological membranes.

Recommended literature:
1. D. Nicholls and S. Fergusson. Bioenergetics 3, Academic Press, 2002.
2. M. Wikström (Ed.). Biophysical and structural aspects of bioenergetics, The Royal Society of Chemistry, 2005.
3. D. Harris. Bioenergetics at a glance, Blackwell Science Ltd., 1995.
4. V. Saks (Ed.). Molecular system bioenergetics, Wiley-VCH, 2007.
5. I. Scheffer. Mitochondria, John Wiley & Sons, Inc., 1999.
6. A.D.N.J. de Grey. The mitochondrial free radical theory of aging, R.G. Landis Company, 1999.
7. J.A.M. Smeiting, R.C.A. Sengers and J.M.F. Trijbels. Oxidative phosphorylation in health and disease, Kluwer Academic/Plenum Publisher, 2004.
8. N.W.C. Cheetham. Introducing biological energetics, Oxford University Press, 2011.
.

Course language:

Notes:

Course assessment
Total number of assessed students: 22

A	B	C	D	E	FX
86.36	4.55	4.55	0.0	4.55	0.0

Provides: doc. Mgr. Daniel Jancura, PhD.

Date of last modification: 10.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ BSIM1/03	**Course name:** Biomolecular Simulations

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

Number of credits: 6

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

Course level: II.

Prerequisities:

Conditions for course completion:
Elaboration and presentation of the project on given actual subject.
Development of own computer programs on project given at the exercises.
Exam.

Learning outcomes:
Introduction to actual problematics of biomolecular simulations.

Brief outline of the course:
Structural characteristics of biological polymers. Foldamers. Central dogma of molecular biology as flow of biological information. 3D-structure and function of foldamers. Recent view on enzyme mechanisms. Experimental methods of structure determination and their limitations. Empirical force fields and methods of classical molecular dynamics. Molecular dynamics and Monte Carlo methods - algorithms and paralelization. Ab initio molecular dynamics and hybrid approaches. Computational challenges in biomolecular simulations - simulations of chemical reactions, free energy evaluation, protein folding. Computational complexity, nontraditional approaches and heuristic approaches.

Recommended literature:
Actual literature recommended by lecturer.

Course language:

Notes:

Course assessment
Total number of assessed students: 33

A	B	C	D	E	FX
75.76	9.09	12.12	0.0	3.03	0.0

Provides: doc. RNDr. Jozef Uličný, CSc.

Date of last modification: 10.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ KKV1/06	**Course name:** Classical and quantum computations
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 3 / 1 **Per study period:** 42 / 14 **Course method:** present	
Number of credits: 6	
Recommended semester/trimester of the course: 5.	
Course level: II.	
Prerequisities:	
Conditions for course completion: Written work Writen and oral examination	
Learning outcomes: To provide information on quantum computer and quantum computations. To compare classical and quantum models and methods.	
Brief outline of the course: The basics of classical theory of computation: Turing machines, Boolean circuits, parallel algorithms, probabilistic computation, NP-complete problems, and the idea of complexity of an algorithm. Introduction of general quantum formalism (pure states, density matrices, and superoperators), universal gate sets and approximation theorems. Grover's algorithm, Shor's factoring algorithm, and the Abelian hidden subgroup problem. Parallel quantum computation, a quantum analogue of NP-completeness, and quantum error-correcting codes.	
Recommended literature: 1. BERMAN,G.P., DOOLEN,G.D., MAINIERI, R., TSIFRINOVIC, V.I. Introduction to Quantum Computers. World Scientific, 2003. 2. GRUSKA, J. Quantum Computing. McGraw-Hill, 1999. 3. JOHNSON, G. A Shortcut Through Time: The Path to the Quantum Computer, Knopf 2003. 4. KITAEV, A.Y., SHEN, A.H., VYALYI, M.N. Classical and Quantum Computation. American Mathematical Society, 2002. 5. NIELSEN, M.A., CHUANG, I.L. Quantum Computation and Quantum Information. Cambridge University Press, 2000. 6. HIRVENSALO, M., Quantum Computing, Springer 2004	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 65

A	B	C	D	E	FX
24.62	27.69	12.31	20.0	10.77	4.62

Provides: doc. RNDr. Gabriel Semanišin, PhD., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ KPI1/01	**Course name:** Coding and information transfer

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., 5.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide the students a knowledge of basic principles of information theory, coding and data compression.

Brief outline of the course:
Introduction to information theory, entropy, Markov models. Huffman coding, adaptive Huffman coding, applications. Arithmetic coding, dictionary techniques, applications. Lossless image compression. Scalar and vector quantizations. Differential encoding, delta modulation, subband coding, wavelets. Transform coding, DFT, DCT, application to JPEG. Analysis/synthesis schemes, fractal compression. Video compression.

Recommended literature:
D. Hankersson, G. Harris, P. Johnson: Introduction to Information Theory and Data Compression, CRC Pr.,1998
K. Sayood: Introduction to Data Compression, Morgan Kaufmann, 1996
J. Adámek: Coding and Inormation Theory, ČVUT, 1994 (Czech)

Course language:

Notes:

Course assessment
Total number of assessed students: 84

A	B	C	D	E	FX
20.24	15.48	19.05	14.29	29.76	1.19

Provides: doc. RNDr. Stanislav Krajči, PhD., doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/TVY/10	**Course name:** Computability theory

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

Number of credits: 4

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 751

A	B	C	D	E	FX
17.04	10.65	19.17	18.38	11.19	23.57

Provides: doc. RNDr. Stanislav Krajči, PhD., RNDr. Ľubomír Antoni, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ VKN/12	**Course name:** Computational and cognitive neuroscience

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: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Advanced topics in study of the central nervous system and cognitive processes in human, with focus on computational concepts important in the study of cognitive and neural sciences. Prerequisite: Intro to Neurosicence

Brief outline of the course:
Selected topics in cognitive science (following up on Intro to Neuroscience). Overview of the methods of theoretical study in cognitive and neural science, including connectionistic, statistical and system-theory principles in modeling of cognitive processes and neural circuits. Selected models of the human visual and auditory systems, learning, thinking, attention, development and plasticity.

Recommended literature:
HERTZ, J., KROGH, A. and PALMER R. G.: Introduction to the theory of neural computation. Addison-Wesley 1991
KANDEL, E. R., SCHWARTZ, J. H. and JESSELL, T.M.: Principles of Neural Science. McGraw-Hill, 2000
DAYAN, P. and ABBOTT, L. F.: Theoretical Neuroscience – Computa-tional and Mathematical Modeling of Neural Systems. MIT Press, 2001

Course language:

Notes:

Course assessment
Total number of assessed students: 2

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

Provides: doc. Ing. Norbert Kopčo, PhD., Ing. Ľuboš Hládek

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/VYZ1/04	**Course name:** Computational complexity

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.

Course level: II.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To give the students the theoretical background in computational complexity and theory of NP-completeness.

Brief outline of the course:
Deterministic and nondeterministic algorithms with polynomial time, NP-completeness. Deterministic simulation of a nondeterministic Turing machine. Satisfiability of Boolean formulae. Another NP-complete problems: satisfiability of a formula in a conjunctive normal form, 3-satisfiability, 3-colorability of a graph, 3-colorability of a planar graph, knapsack problem, balancing, ... Space bounded computations, classes LOG-space and P-space. Deterministic simulation - Savitch theorem. Closure under complement Classification of computational complexity of problems.

Recommended literature:
A.V.Aho and J.D.Ullman. The design and analysis of computer algorithms. Addison-Wesley, 1974.
P.van Emde Boas. Machine models and simulations. In J.van Leeuwen (ed.): Handbook of theoretical computer science. North-Holland, 1990.
Ch.K.Yap. Introduction to the theory of complexity classes. To be published by Oxford Univ. Press. (Electronic version available via anonymous ftp://cs.nyu.edu/pub/local/yap/complexity-bk).

Course language:

Notes:

Course assessment
Total number of assessed students: 296

A	B	C	D	E	FX
52.36	14.86	14.53	9.8	8.45	0.0

Provides: prof. RNDr. Viliam Geffert, DrSc.
Date of last modification: 03.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/EIT/10	**Course name:** Computational complexity, computational models

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

Number of credits: 0

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚINF/KKV1/06 and (ÚMV/KOA/10 or ÚINF/ANP/13)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 3

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

Provides:

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ VYU1/03	**Course name:** Computational learning

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:
Recognition, oral examination.

Learning outcomes:
To provide the students basic knowledge about computational learning algorithms.

Brief outline of the course:
Concepts, hypotheses, learning algorithms. Boolean formulae and representation, learning algorithms for disjunctions. Probabilistic learning, consistent algorithms and learnability, efficient learning, probably approximately correct (PAC) learning, Occam algorithms, Vapnik-Cervonenkis (VC) dimension and learning algorithms.

Recommended literature:
M. Anthony, N. Biggs: Computational Learning Theory, Cambridge University Press, 1991.
M. J. Kearns, U. V. Vazirani: An Introduction to Computational Learning Theory, MIT Press London, 1994.

Course language:

Notes:

Course assessment
Total number of assessed students: 157

A	B	C	D	E	FX
12.1	16.56	23.57	15.92	24.2	7.64

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ ARP1/05	**Course name:** Computer architecture

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: 4., 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Oral examination, written tests.

Learning outcomes:
To provide the students with a knowledge of basic principles of computer architecture.

Brief outline of the course:
Milestones in computer organization, fundamental limitations. The representation of numbers and the implementation of floating point arithmetic. Combinatorial and sequential circuits, memory organization, RAMs and ROMs. Digital logic level architecture, data path timing, machine cycle. The microarchitecture level, microinstructions and microinstrucion control. The instruction set architecture level, data types, addressing modes, instruction types. Instruction execution, pipelining, cache memory. I/O controllers, ports, interrupts, direct memory access. Device drivers, operating system kernel, device-independent software.

Recommended literature:
A. S. Tanenbaum: Structured Computer Organization, 4.ed., Prentice-Hall, 1999
W. Stallings: Computer Organization and Architecture, 4.ed., Prentice-Hall, 1996
J. Blieberger, G. H. Schildt, U. Schmid, S. Stoeckler: Informatik, Springer-Verlag, 1990

Course language:

Notes:

Course assessment
Total number of assessed students: 49

A	B	C	D	E	FX
16.33	20.41	20.41	22.45	20.41	0.0

Provides: doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/EIP/01	**Course name:** Computer systems and networks

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

Number of credits: 0

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚINF/ARP1/05 and (ÚINF/PDS1/03 or ÚINF/KPI1/01 or ÚINF/OPS1/11)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 13

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

Provides:

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ KRP1/06	**Course name:** Cryptographic protocols

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: II.

Prerequisities:

Conditions for course completion:
written test

Learning outcomes:
to acquire knowledge on design and verifying of cryptographic protocols

Brief outline of the course:
Authentication and key establishment using shared and public key cryptography,
key agreement protocols, conference key agreement, zero-knowledge protocols.

Recommended literature:
1. Colin Boyd, Anish Mathuria: Protocols for Authentication and Key Establishment, Springer, 2003
2. Douglas R. Stinson: Cryptography: Theory and Practice, Third Edition, Chapman & Hall/CRC, 2006
3. Bruce Schneier: Applied Cryptography, Second Edition,
John Wiley & Sons Inc., 1996
4. Peter Ryan, Steve Schneider: Modeling and Analysis of Security Protocols, Addison-Wesley, 2001

Course language:

Notes:

Course assessment
Total number of assessed students: 39

A	B	C	D	E	FX
33.33	12.82	7.69	15.38	30.77	0.0

Provides: doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/KRS/13	**Course name:** Cryptographic systems and their applications

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

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: 84

A	B	C	D	E	FX
13.1	10.71	9.52	11.9	34.52	20.24

Provides: doc. RNDr. Jozef Jirásek, PhD., RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ODPA/01	**Course name:** Defence of diploma thesis

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

Number of credits: 0

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚINF/DPITc/06

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 84

A	B	C	D	E	FX
28.57	22.62	17.86	20.24	9.52	1.19

Provides:

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/TDB1/06	**Course name:** Development of web-oriented database applications

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: II.

Prerequisities:

Conditions for course completion:
Work on a project.
Presentation of a project.

Learning outcomes:
Students will know the latest basic ideas and techniques for developing database oriented web applications.

Brief outline of the course:
I. Data components. ADO.NET architecture: .NET data provider, DataReader and the DataSet. Entity data models: Code-First, Model-First, Database-First - DbContext, DbModelBuilder, DbSet and EntityCollection.
II. Web components. HTML 5, JavaScript, jQuery. ASP.NET, Web Forms, Web Pages. MVC architecture: model, view, controller - actions, navigation and state management. Web API.

Recommended literature:
[1] A. Freeman, Pro ASP.NET MVC 4, Apress, 2012
[2] D. Esposito, Programming Microsoft ASP.NET MVC, 3rd Edition, Microsoft Press, 2014
[3] J.P.Mueller, Microsoft ADO.NET Entity Framework Step by Step, Microsoft Press, 2013
[4] http://www.asp.net/mvc/mvc5

Course language:

Notes:

Course assessment
Total number of assessed students: 83

A	B	C	D	E	FX
74.7	4.82	12.05	1.2	4.82	2.41

Provides: doc. RNDr. Csaba Török, CSc., doc. RNDr. Gabriel Semanišin, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DPITa/06	**Course name:** Diploma thesis in informatics

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

Number of credits: 4

Recommended semester/trimester of the course: 4.

Course level: 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: 17

A	B	C	D	E	FX
58.82	29.41	5.88	0.0	5.88	0.0

Provides: prof. RNDr. Viliam Geffert, DrSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DPITb/06	**Course name:** Diploma thesis in informatics

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 6 **Per study period:** 84
Course method: present

Number of credits: 6

Recommended semester/trimester of the course: 5.

Course level: II.

Prerequisities: ÚINF/DPITa/06 or ÚINF/DPITa/14

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX
78.95	5.26	5.26	5.26	5.26	0.0

Provides: prof. RNDr. Viliam Geffert, DrSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DPITc/06	**Course name:** Diploma thesis in informatics

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

Number of credits: 28

Recommended semester/trimester of the course: 6.

Course level: II.

Prerequisities: ÚINF/DPITb/06

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 10

A	B	C	D	E	FX
60.0	10.0	20.0	0.0	10.0	0.0

Provides: prof. RNDr. Viliam Geffert, DrSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DOP1/09	**Course name:** Distributive object programming

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

Number of credits: 3

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

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Mastering the basics of distributed and parallel programming and design of distributed applications communicating via messages.

Brief outline of the course:
Multithreading, synchronization primitives. Basics of parallel programming, PLINQ, Task Parallel Library. Distributed object-oriented programming and its application. Service-oriented architecture, communication via messages. Endpoint: address, interconnections and communication channels, contracts for services, data and messages.

Recommended literature:
- A. S. Tanenbaum, M.V. Steen: Distributed Systems: Principles and Paradigms, Prentice Hall, 2002
- C.Campbell, R.Johnson, A.Miller, Parallel Programming with Microsoft® .NET, Microsoft, 2010
- J.Sharp, Windows Communication Foundation 4 Step by Step, O'Reilly, 2010
- J.Albahari, B.Albahari, C# 5.0 in a Nutshell: The Definitive Reference, O'Reilly, 2011

Course language:

Notes:

Course assessment
Total number of assessed students: 13

A	B	C	D	E	FX
0.0	30.77	53.85	7.69	7.69	0.0

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ VEP1/09	**Course name:** Formal methods in a verification

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: 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: 18

A	B	C	D	E	FX
27.78	22.22	22.22	16.67	0.0	11.11

Provides: doc. RNDr. Gabriela Andrejková, CSc., Mgr. Alexander Szabari, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ EIS/04	**Course name:** Formal models of computational processes
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 0	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities: ÚINF/VYZ1/04 and (ÚINF/SMI1/08 or ÚINF/TIK1/13) and ÚINF/APA1/09 and (ÚINF/NEU1/03 or ÚINF/KPI1/01 or ÚINF/PDS1/03 or ÚINF/KKV1/06)	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 83

A	B	C	D	E	FX
15.66	15.66	18.07	16.87	31.33	2.41

Provides:
Date of last modification: 03.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ EIN/04	**Course name:** Foundations of artificial intelligence

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

Number of credits: 0

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚINF/VYU1/03 and (ÚINF/NEU1/03 or ÚFV/NOT1b/03)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 18

A	B	C	D	E	FX
22.22	16.67	27.78	0.0	33.33	0.0

Provides:

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ ZNA1/06	**Course name:** Foundations of knowledge 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: 4

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

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
The

Brief outline of the course:
S

Recommended literature:
Hedman S.: A first course in logic: An introduction to model theory, proof theory, computability and complexity. Oxford university press, 2006
Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997
Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995
Bělohlávek R.: Fuzzy Relational Systems: Foundations and Principles. Kluwer, Academic/ Plenum Publishers, New York, 2002
Ganter B., Wille R.: Formal Concept Analysis: Mathematical Foundations, Springer Berlin, 1999

Course language:

Notes:

Course assessment
Total number of assessed students: 60

A	B	C	D	E	FX
15.0	15.0	20.0	21.67	21.67	6.67

Provides: RNDr. Ondrej Krídlo, PhD.

Date of last modification: 12.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ZNA1/14	**Course name:** Foundations of knowledge 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: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
The goal is to teach students some advanced applications of logic into computer science, especially in database and knowledge systems.

Brief outline of the course:
Relations of formal models DBMS, SQL, and logic programming. Resolution, deduction and induction in classical, fuzzy and probabilistic logic.

Recommended literature:
Shawn Hedman. A first course in logic: An introduction to model theory, proof theory, computability and complexity. Oxford university press, ISBN 0–19–852980–5, 2006.
Shan-Hwei Nienhuys-Cheng, Ronald de Wolf. Foundations of Inductive Logic Programming. Springer-Verlag, ISBN 3-540-62927-0, 1997.
Kristian Kersting. An Inductive Logic Programming Approach to Statistical Relational Learning, IOS Press, ISBN 1-58603-674-2, 2006.

Course language:

Notes:

Course assessment
Total number of assessed students: 60

A	B	C	D	E	FX
15.0	15.0	20.0	21.67	21.67	6.67

Provides: RNDr. Ondrej Krídlo, PhD.

Date of last modification: 24.07.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/FUN1/14	**Course name:** Functional programming

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: 1.

Course level: I., II.

Prerequisities: ÚINF/PAZ1c/03

Conditions for course completion:

Learning outcomes:
To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of functional programming languages.

Brief outline of the course:
Principles of functional programming. Lambda calculus from the functional programming languages point of view. Properties of functional programming languages. Programming language Haskell: the structure of the language and basic computational rule, basic data types, lists, recursion and induction, trees

Recommended literature:
BIRD, R., WADLER, P.: Introduction to Functional Programming. Prentice Hall International, 1988.
LIPOVAČA, M.: Learn You Haskell for Great Good!. Free from http://learnyouahaskell.com/

Course language:

Notes:

Course assessment
Total number of assessed students: 4

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

Provides: doc. Ing. Štefánia Gallová, CSc.

Date of last modification: 25.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 2.

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: 729

A	B	C	D	E	FX
60.49	13.85	12.76	8.78	3.43	0.69

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: 26.01.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB10/14	**Course name:** IB10 - Medzinárodný certifikát ECo-C
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB11/14	**Course name:** IB11 - Medzinárodný certifikát ECDL
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 14	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB12/14	**Course name:** IB12 - Používanie, administrácia a vývoj v systéme SAP
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 54	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: R UPJŠ/ IB1/14	**Course name:** IB1 - Etika v biomedicínskych vedách pre zdravotnícku prax

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

Number of credits: 16

Recommended semester/trimester of the course:

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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB2/14	**Course name:** IB2 - Právne minimum – súkromnoprávne aspekty
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB3/14	**Course name:** IB3 - Právne minimum – verejnoprávne aspekty

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

Number of credits: 16

Recommended semester/trimester of the course:

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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB4/14	**Course name:** IB4 - Projektový manažment
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 20	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB5/14	**Course name:** IB5 - Manažérska ekonomika
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB6/14	**Course name:** IB6 - Riešenie konfliktných a krízových situácií v školskej praxi
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB7/14	**Course name:** IB7 - Štatistika pre prax
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB8/14	**Course name:** IB8 - Environmentálne aspekty záťaže životného prostredia
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB9/14	**Course name:** IB9 - Medzinárodný certifikát TOEFL
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 17	
Recommended semester/trimester of the course:	
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: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ANO/07	**Course name:** Image analysis

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: 3., 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: 5

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

Provides: doc. Ing. Zoltán Tomori, CSc., Ing. Radoslav Gargalík

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ EIM/08	**Course name:** Informatics for medicine
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 0	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities: ÚINF/MIN2/08 and (ÚINF/ANO/07 or ÚINF/SPG1/05)	
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:
Date of last modification: 03.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ MIN1/06	**Course name:** Informatics for medicine

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., 3., 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Oral and written exam

Learning outcomes:
To present an application of computer science in medicine domain with emphasis on the specific conditions for so-called safety-relevant domain.

Brief outline of the course:
Software development go medicine domain (radiotherapy and ultrasound). Syngo platform, MS .NET, C#, C++. Development based on so-called "V" development model. An overview of used software tools:
RationalRose, RequisitePro, UITA, Caliber, ClearCase. Quality and process management and SW company mangement according to CMMI methodology.

Recommended literature:
http://www.syngo.com
http://www.siemens.com

Course language:

Notes:

Course assessment
Total number of assessed students: 68

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

Provides: doc. Ing. Norbert Kopčo, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ MIN2/08	**Course name:** Informatics for medicine

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: 2., 4.

Course level: I., II.

Prerequisities: ÚINF/MIN1/06

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 20

A	B	C	D	E	FX
80.0	10.0	0.0	0.0	10.0	0.0

Provides: doc. Ing. Norbert Kopčo, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ EIL/04	**Course name:** Information and knowledge systems
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 0	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities: ÚINF/LAD1/06 and (ÚINF/VYU1/03 or ÚINF/AIS1/01)	
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
30.0	16.67	16.67	16.67	13.33	6.67

Provides:	
Date of last modification: 03.02.2014	
Approved: prof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ AIS1/01	**Course name:** Information systems architecture

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: 4.

Course level: II.

Prerequisities:

Conditions for course completion:
Work on project.
Written and oral examination

Learning outcomes:
To provide an overview of the modern methodologies of information system development. To introduce the fundamental principles of conceptual modelling of information systems.

Brief outline of the course:
System, information system, information pyramid. Conceptualisation of information systems. ISO model of the architecture of an information system. Introduction to MDA, software development life cycle based on MDA. Model, metamodel, modelling language. Model transformation and marking models. Entity types. Relationship types. Cardinality constraints. Integrity constraints. Taxonomies. Domain events. Use cases. State transition diagrams.

Recommended literature:
1. http://www.omg.org
2. Ian Sommerville, Software Engineering, Addison-Wesley 2005
3. Anneke Kleppe, Wim Bast, Jos B Warmer, MDA Explained, the Model Driven Architecture, Addison-Wesley 2003
4. Scott Berkun, The Art Of Project Management, O Reilly 2005

Course language:

Notes:

Course assessment
Total number of assessed students: 165

A	B	C	D	E	FX
20.0	30.91	25.45	8.48	11.52	3.64

Provides: doc. RNDr. Gabriel Semanišin, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ TIK1/13	**Course name:** Information theory, encoding

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: 4.

Course level: 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: 0

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

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UUI1/06	**Course name:** Introduction to artificial intelligence

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: 2., 4., 6.

Course level: II.

Prerequisities:

Conditions for course completion:
home work and written tests
final exam

Learning outcomes:
The goal of the course is to achieve basic information about artificial intelligence techniques. For a student it is possible to study more deeply from literature, if needed.

Brief outline of the course:
Goal of artificial intelligence, natural intelligence, edges of agent machine intelligence, knowledge representation in AI (semantic networks, frames), reasoning. Problem solving in status space - non-informed versus informed deep and wide search, A*, solving of problems described as the game, iterative enhancement algorithms, problem solving by decomposition. Planning and scheduling, constraint logic programming, machine learning, computer vision - image recognition (flag described objects recognition, structural scene analysis), image preprocessing, image representation and describtion, object recognition. Natural language processing, artificial neural networks, knowledge systems (structure, charakteristcs, direct and backward reasoning, working with vague information), genetic algorithms, distributed artificial intelligence and multi-agent systems.

Recommended literature:
Russell S.J., Norvig P: Artificial Intelligence: A Modern Approach (2nd Edition), Prentice Hall, 2002, ISBN: 0137903952
Negnevitsky Michael: Artificial Intelligence: A Guide to Intelligent Systems (2nd Edition), Addison Wesley, 2004, ISBN: 0321204662
Luger George: Artificial Intelligence: Structures and Strategies for Complex Problem Solving (5th Edition), Addison Wesley, 2004, ISBN: 0321263189

Course language:

Notes:

Course assessment
Total number of assessed students: 76

A	B	C	D	E	FX
63.16	17.11	13.16	3.95	2.63	0.0

Provides: doc. Ing. Štefánia Gallová, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UGR1/04	**Course name:** Introduction to computer graphics

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: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 216

A	B	C	D	E	FX
13.43	7.87	12.5	24.07	32.41	9.72

Provides: RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/UNS1/04	**Course name:** Introduction to neural networks

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: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 336

A	B	C	D	E	FX
8.04	15.18	23.81	21.43	27.08	4.46

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ZLSP/14	**Course name:** Linux fundamentals for SAP

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., II., N

Prerequisities: ÚINF/ZTSP/14 or ÚINF/SAP1a/06

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Introduction to Linux: commands, permissions & processes, work with the files, advanced Linux: advanced commands; basics of networking & scripting, SAP architecture on OS level.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

abs	n
100.0	0.0

Provides: RNDr. Štefan Pero

Date of last modification: 17.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ LAD1/06	**Course name:** Logical aspects of databases

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: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To understand and to be able to formalize relationships between databases, first order logic and logic programming.

Brief outline of the course:
Relationships between databases, logic and logic programming.

Recommended literature:
Serge Abiteboul, Richard Hull, Victor Vianu: Foundations of Databases. Addison-Wesley 1995, ISBN 0-201-53771-0

Course language:

Notes:

Course assessment
Total number of assessed students: 58

A	B	C	D	E	FX
32.76	17.24	22.41	13.79	12.07	1.72

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/LOP1/04	**Course name:** Logic programming

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., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages.

Brief outline of the course:
Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions.

Recommended literature:
BRATKO, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001

Course language:

Notes:

Course assessment
Total number of assessed students: 211

A	B	C	D	E	FX
19.43	10.9	15.64	24.64	27.01	2.37

Provides: RNDr. Ondrej Krídlo, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ TSU1/12	**Course name:** Machine learning methods

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: 6.

Course level: II.

Prerequisities:

Conditions for course completion:
Fnal project and exam

Learning outcomes:
Detailed overview on different techniques of machine learning and data mining.

Brief outline of the course:
Supervised learning: k-NN, linear classification and regression, kernels, logistic regression, support vector machines, decision trees, naive bates classifier and bayesian networks; Unsupervised learning: clustering, frequent itemset mining and association rule mining.

Recommended literature:
Jiawei Han, Micheline Kamber, Jian Pei. Data Mining: Concepts and Techniques. Morgan Kaufmann, ISBN 978-0123814791, 2011.
Pang-Ning Tan, Michael Steinbach, Vipin Kumar. Introduction to Data Mining. Addison-Wesley, ISBN 978-0321321367, 2005.
Ethem Alpazdin. Introduction to Machine Learning, The MIT Press, ISBN 978-0-262-01211-9, 2004.

Course language:

Notes:

Course assessment
Total number of assessed students: 5

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

Provides: RNDr. Tomáš Horváth, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MAN3a/10	**Course name:** Mathematical analysis I for informaticians and physicists

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

Number of credits: 8

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Continuous assessment is taken the form of small tests and two main tests during the semester. Final evaluation is given by continuous assessment (50%), written and oral part of the exam (50%).

Learning outcomes:
The course provides students with the basics of mathematical analysis necessary to study physics and computer science. The students also learn mathematical culture, notation and mathematical way of thinking and expression.

Brief outline of the course:
1. Introduction - language of mathematics, basics of formal logic.
2. Real numbers and sets - ordering, boundedness, infimum, supremum.
3. Sequences - boundedness, monotonicity, convergence, subsequences.
4. Series - sum, tests for convergence, absolute and relative convergence.
5. Functions of one real variable - fundamental concepts, limits and operations with them.
6. Continuous functions and their properties on the set (interval). Elementary functions.
7. Derivative, differentiability, difference and differential, fundamental theorems of differential calculus.
8. Using differential calculus for the investigation of properties of functions and their behavior.
9. Other applications of derivative - calculation of limits, Taylor polynomials.
10. Power series - radius and range of convergence, properties of the sum of power series, Taylor series.

Recommended literature:
1. B. Mihalíková, J. Ohriska: Matematická analýza 1, vysokoškolský učebný text, UPJŠ v Košiciach, Košice, 2000 (in Slovak).
2. Z. Došlá, J. Kuben: Diferenciální počet funkcí jedné proměnné, vysokoškolský učebný text, Masarykova univerzita v Brne, Brno, 2004 (in Czech).
3. D. Brannan: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge, 2006.
4. K. A. Ross: Elementary Analysis: The theory of Calculus, Springer, New York, 2010.
5. A. Banner: The calculus lifesaver, Princeton university press, Princeton, 2007.

6. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary real analysis, Prentice Hall (Pearson), Lexington, 2008.
7. J. Stewart: Calculus: Early Transcendentals, Brooks Cole (Thomson), Toronto, 2008.

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 850

A	B	C	D	E	FX
6.59	8.12	12.94	15.29	37.18	19.88

Provides: RNDr. Ivan Mojsej, PhD., Mgr. Jozef Kiseľák, PhD.

Date of last modification: 14.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MAN3b/10	**Course name:** Mathematical analysis II for informaticians and physicists

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

Number of credits: 8

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities: ÚMV/MAN3a/10

Conditions for course completion:
Continuous assessment is taken the form of small tests and two main tests during the semester. Final evaluation is given by continuous assessment (50%), written and oral part of the exam (50%).

Learning outcomes:
The course provides students with the basics of mathematical analysis necessary to study physics and computer science. The students also learn mathematical culture, notation and mathematical way of thinking and expression.

Brief outline of the course:
1. Integral calculus of functions of one real variable: a) Indefinite integral - primitive function and its properties, techniques of integration; b) Definite Riemann integral - definition, elementary properties, calculation methods, classes of integrable functions, applications; c) Improper integral.
2. Ordinary differential equations - basic concepts, the first order equations (separable, homogeneous, linear, Bernoulli), linear equations of the second order (also with constant coefficients).
3. Metric space - Euclidean space, some topological properties of points and sets.
4. Function of several real variables - basic concepts, limits and continuity.
5. Differential calculus of functions of several real variables - partial derivative, differentiability and total differential (also higher order), Taylor polynomials, directional derivative, local and global extrema, constrained local extrema.
6. Double (two dimensional) integral - definition, calculation methods, applications.

Recommended literature:
1. L. Kluvánek, I. Mišík, M. Švec: Matematika I, II, SVTL, Bratislava, 1959 (in Slovak).
2. Z. Došlá, O. Došlý: Diferenciální počet funkcí více proměnných, vysokoškolský učebný text, Masarykova univerzita v Brne, Brno, 2003 (in Czech).
3. J. Eliaš, J. Horváth, J. Kajan: Zbierka úloh z vyššej matematiky 2, 3, 4, Alfa, Bratislava, 1971 (in Slovak).
4. J. C. Robinson: An introduction to ordinary differential equations, Cambridge University Press, Cambridge, 2004.
5. R. E. Williamson, H. F. Trotter: Multivariable mathematics, Prentice Hall (Pearson), Upper Saddle River, 2004.

6. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary Real Analysis, Prentice Hall (Pearson), Lexington, 2008.
7. J. Stewart: Calculus: Early Transcendentals, Brooks Cole (Thomson), Toronto, 2008.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 375

A	B	C	D	E	FX
6.4	7.47	11.47	17.87	40.53	16.27

Provides: Mgr. Jozef Kiseľák, PhD., doc. RNDr. Božena Mihalíková, CSc., RNDr. Jaroslav Šupina, PhD.

Date of last modification: 14.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ KDO1/99	**Course name:** Methods of Clinical Dosimetry

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: 2., 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Basic methods of clinical dosimetry.

Brief outline of the course:
The basic concepts of clinical dosimetry and its radiotherapy applications. The sources of ionising radiation. The dose measurement methods. New trends in clinical dosimetry. PC supported topometry and dosimetry of beams ”in phantoms” and ”in vivo” dosimetry. 3D-figures (based on tomograph slices) on simulation methods and it’s using on radiotherapy.

Recommended literature:

Course language:

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. Pavel Matula, CSc.

Date of last modification: 11.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ MPJ1/08	**Course name:** Modern programming languages

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Mastering the basics of standard and experimental programming models and techniques.

Brief outline of the course:
Object oriented programming, Generic programming – parametric polymorphism. Vector programming – operator overloading, indexer. Event programming (event handling) – delegates. Attribute programming. Parallel and multithread programming – processes, threadpool. Functional and declarative programming – lambda expressions, LINQ. Graphics primitives.

Recommended literature:
- Andrew Troelsen, Pro C# 5.0 and the .NET 4.5 Platform, 2012, APRESS
- Joseph Albahari, Ben Albahari, C# 5.0 in a Nutshell: The Definitive Reference, 2012, O'REILLY
- Daniel Solis, Illustrated C# 2012, 2012, APRESS

Course language:

Notes:

Course assessment
Total number of assessed students: 88

A	B	C	D	E	FX
17.05	18.18	27.27	22.73	14.77	0.0

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 15.01.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ NEU1/03	**Course name:** Neural networks

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To understand and to know using basic paradigms of neural networks.

Brief outline of the course:
Feed-forward and recurrent neural networks, back propagation algorithm to adaptation of neural networks, a capability of neural networks to be an universal approximator. Hopfield neural networks and solving optimization problems. Kohonen neural networks. Neural networks in connections to computational models. Theoretical problems of neural networks.

Recommended literature:
J. Hertz, A.Krogh, R.G. Palmer: Introduction to the theory of neural computation, Addison Wesley, 1991.
V. Kvasnička a kol.: Úvod do teórie neurónových sietí, IRIS, Bratislava, 1997.
J. Šíma, R. Neruda: Teoretické otázky neurónových sítí. Matfyzpress,MFF UK, Praha, 1996.

Course language:

Notes:

Course assessment
Total number of assessed students: 172

A	B	C	D	E	FX
12.79	14.53	22.67	23.84	20.93	5.23

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ NOT1a/03	**Course name:** Nontraditional Optimization Techniques I

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

Number of credits: 5

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

Course level: I., II.

Prerequisities:

Conditions for course completion:
Monitoring progress in solving applied projects.
examination (50%), quality of the project (50%)
examination

Learning outcomes:
To familiarize students with biologically and physically inspired optimization, simulation and prediction techniques. To expand students' creativity and programming skills by applying heuristic techniques in solving applied problems.

Brief outline of the course:
Fundamentals of optimization theory. Basic optimization problems. Basic types of objective functions. Classification of optimization techniques. Gradient-based optimization techniques. Evolutionary algorithms. Genetic algorithms. Genetic algorithms as Markov processes. Statistical Mechanics Approximations of Genetic Algorithms. Monte Carlo simulation and simulated annealing. Swarm optimization. Cellular Automata and their applications in simulations of complex systems. Fractals. Agent-based models. Evolutionary games. Evolution of cooperation. Fundamentals of Neural Networks. Application of singular value decomposition to solve least squares problems.

Recommended literature:
Hartmann, A. K., Rieger, H., Optimization Algorithms in Physics, Wiley, 2002
Reeves, C. R., Rowe, J. E., Genetic Algorithms: Principles and perspectives, Kluwer, 2003
Mitchell, M., Complexity. A Guided Tour, Oxford University Press, 2009
Solé, R. V., Phase Transitions, Princeton University Press, 2011
Ilachinski, A., Cellular Automata. A Discrete universe, World Scientific, 2002
Haykin, S., Neural Networks. A Comprehensive Foundation, Prentice-Hall, 1999

Course language:

Notes:

Course assessment
Total number of assessed students: 55

A	B	C	D	E	FX
69.09	16.36	7.27	1.82	5.45	0.0

Provides: RNDr. Branislav Brutovský, CSc.

Date of last modification: 10.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ NOT1b/03	**Course name:** Nontraditional Optimization Techniques II

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

Number of credits: 5

Recommended semester/trimester of the course: 2., 4., 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Presentation of the project in written form. Oral exam and discussion of the presented project.

Learning outcomes:
By using examples from the biology to learn applications of optimization techniques on study and interpretation of complex systems. Introduction to new paradigms in the area of systems biology.

Brief outline of the course:
Complex systems, emergent behavior. Evolutionary theory and memetics. Application of optimization techniques on complex systems. Application of methods /genetic algorithms, simulated annealing, taboo search/ on selected problems of biomolecular simulations. Molecular dynamics, protein folding. Population dynamics, metabolic networks and complexity in bioinformatics.

Recommended literature:
The actual scientific papers.

Course language:

Notes:

Course assessment
Total number of assessed students: 29

A	B	C	D	E	FX
86.21	6.9	3.45	3.45	0.0	0.0

Provides: doc. RNDr. Jozef Uličný, CSc.

Date of last modification: 10.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ORSP/14	**Course name:** Oracle database 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: 4	
Recommended semester/trimester of the course:	
Course level: I., II., N	
Prerequisities: ÚINF/ASSP/14 or ÚINF/SAP1b/06	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: Database Overview: database architecture, connecting to the database, using database administration tools, administrating Oracle instances. Space management: administrating "Table Spaces", Performing reorganization of tables, housekeeping and troubleshooting. Backup, Restore and Recovery.	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 11	

abs	n
90.91	9.09

Provides: RNDr. Štefan Pero
Date of last modification: 17.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PDB1/10	**Course name:** Organization and data processing

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: II.

Prerequisities:

Conditions for course completion:
final exam

Learning outcomes:
To understand the principles of database management systems. To be able to use the knowledge when solving optimization problems over big data and managing parallel and distributed databases.

Brief outline of the course:
Data representation, disk and file organization, tree-based indexing methods B+tree, R-tree, Hash-based indexing methods, external sorting, enumeration of relational operators, top-k join, query optimization, transaction management, parallel and distributed databases, database security, recovery management, data reduction, object databases, XML databases

Recommended literature:
R. RAMAKRISHNAN, J. GEHRKE: Database Management Systems, McGraw Hill Higher Education, 2003
A. SILBERSCHATZ, H. F. KORTH, S. SUDARSHAN: Database system concepts, McGraw Hill Higher Education, 2006

Course language:

Notes:

Course assessment
Total number of assessed students: 46

A	B	C	D	E	FX
34.78	19.57	19.57	8.7	17.39	0.0

Provides: RNDr. Peter Gurský, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ZMSP/14	**Course name:** Overview of basic modules for consultant
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., II., N	
Prerequisities: ÚINF/ZKSP/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: User training modules: HR (Human Resources), FI (Financial) + CO (Controlling), MM (Material Management).	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 0	
abs	n
0.0	0.0
Provides: RNDr. Štefan Pero	
Date of last modification: 17.02.2014	
Approved: prof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PDS1/03	**Course name:** Parallel and distributed 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: 4

Recommended semester/trimester of the course: 4.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
to introduce the fundamentals of parallel and distributed programming

Brief outline of the course:
current parallel and distributed architectures, basic issues in parallel and distributed applications development, data structures and programming methodologies

Recommended literature:
Kenneth A. Berman and Jerome L. Paul: Algorithms: Sequential, Parallel, and Distributed, Thomson, 2005, ISBN 0-534-42057-5
Gregory R. Andrews: Foundations of Multithreaded, Parallel, and Distributed Programming, Addison-Wesley, 2000, ISBN 0-201-35752-6
Joseph JáJá: An Introduction to Parallel Algorithms, Addison-Wesley, 1992, ISBN 0-201-54856-9
Gerard Tel: Introduction to Distributed Algorithms, Cambridge University Press, 1994, ISBN 0-521-47069-2

Course language:

Notes:

Course assessment
Total number of assessed students: 97

A	B	C	D	E	FX
23.71	20.62	15.46	20.62	11.34	8.25

Provides: doc. RNDr. Jozef Jirásek, PhD., RNDr. František Galčík, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ LEK1/02	**Course name:** Physical Principles of Medical Diagnostics and Therapy

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.

Course level: 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: 27

A	B	C	D	E	FX
85.19	11.11	3.7	0.0	0.0	0.0

Provides: doc. RNDr. Karol Flachbart, DrSc.

Date of last modification: 18.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PAZ1c/03	**Course name:** Programming, algorithms, and complexity

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

Number of credits: 5

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To grasp object-oriented principles of larger application and algorithm design.

Brief outline of the course:
Contract as a basic principle of class design. Designing class associations. Managing associations between object: Factories, Singletons, Dependency Injection. Class hierarchy design. Basic principles of GUI design – models, views, controllers and implementation in Swing. Creating three-layered applications.

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

Course language:

Notes:

Course assessment
Total number of assessed students: 231

A	B	C	D	E	FX
37.66	20.35	17.32	10.39	9.52	4.76

Provides: RNDr. Róbert Novotný, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PMSP/14	**Course name:** Project management in SAP ERP
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:	
Course level: I., II., N	
Prerequisities: ÚINF/ZMSP/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: Business process overview in SAP, project structure definition, project planning, resource planning, costs and revenues, record project activities.	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 0	

abs	n
0.0	0.0

Provides: RNDr. Štefan Pero
Date of last modification: 17.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PDSI1/04	**Course name:** Pro-seminar to diploma thesis in informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To inform students about areas of informatics they are suitable to work in diploma theses. In the end of semester students have to prepared themes of diploma theses, goals and recommended study literature.

Brief outline of the course:
The seminar is oriented to problems prospective to preparations of Diploma theses.

Recommended literature:
MEŠKO, D., KATUŠČÁK, D. Akademická príručka. 1. vyd. Vydavateľstvo Osveta : Martin, 2004. 316 s. ISBN 80-8063-150-6
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.
Eco, U.: Jak napsat diplomovou práci, z taliančiny Come si fa una tesi di laures, Milano, 1977, Olomouc, Votobiax.
Odborná a vedecká literatúra týkajúca sa diplomovej práce podľa odporúčania vedúceho diplomovej práce.

Course language:

Notes:

Course assessment
Total number of assessed students: 527

abs	n
99.81	0.19

Provides: doc. RNDr. Gabriela Andrejková, CSc., doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PPZMg/12	**Course name:** Psychology and Health Psychology (Mgr. study)

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

Number of credits: 4

Recommended semester/trimester of the course: 2.

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: 221

A	B	C	D	E	FX
19.91	25.79	25.34	12.67	15.84	0.45

Provides: PhDr. Anna Janovská, PhD., PhDr. Karolína Barinková, PhD., Mgr. Lucia Hricová

Date of last modification: 04.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PPU1a/04	**Course name:** Running practice
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: 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: 116

abs	n
99.14	0.86

Provides: RNDr. JUDr. Pavol Sokol, PhD.
Date of last modification: 03.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PPU1b/04	**Course name:** Running practice
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: 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
100.0	0.0

Provides: RNDr. JUDr. Pavol Sokol, PhD.
Date of last modification: 03.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/APSP/14	**Course name:** SAP applications in public administration/company

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., II., N

Prerequisities: ÚINF/ZSSP/14

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Description of the processes and procedures in the area of SAP budgeting, financing and asset management, SAP for human resources and payroll, SAP Administrative Office system, outputs - reporting in the SAP environment, output options, training outputs, output processing, and exporting data further processing in the environment of Excel, Word ..., inputs - import data in the SAP environment, preparation of input data, the procedure for importing data.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 27

abs	n
100.0	0.0

Provides: RNDr. Štefan Pero, RNDr. Edita Vojtová

Date of last modification: 17.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ZKSP/14	**Course name:** SAP basics for consultant
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., II., N	
Prerequisities: ÚINF/ZTSP/14 or ÚINF/SAP1a/06	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: Organizational structure and processes (integration of SAP modules). Master records and their importance for the process. Customizing and transports, Standard reporting + Queries, Programming tools - migration, connection to external systems, BADIs, business functions, CMOD, SAP OSS, information retrieval.	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 0	

abs	n
0.0	0.0

Provides: RNDr. Štefan Pero	
Date of last modification: 17.02.2014	
Approved: prof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ZSSP/14	**Course name:** SAP basics for user

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., II., N

Prerequisities: ÚINF/ZTSP/14 or ÚINF/SAP1a/06

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Characteristics of modern systems, effective solutions for the management and operation of institutions, fundamental processes in the institution of government, support for the process from the system. SAP user roles and profiles, case studies in terms of deployment of SAP company.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 63

abs	n
100.0	0.0

Provides: RNDr. Štefan Pero, RNDr. Edita Vojtová

Date of last modification: 17.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PUSP/14	**Course name:** SAP for advanced users
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., II., N	
Prerequisities: ÚINF/APSP/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: One of the training modules: HR (Human Resources), FI (Financial) + CO (Controlling), MM (Material Management).	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 27	

abs	n
100.0	0.0

Provides: RNDr. Štefan Pero, RNDr. Edita Vojtová
Date of last modification: 17.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ZTSP/14	**Course name:** SAP overview

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., 5.

Course level: I., II., N

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Defining mySAP Technology (Products, Innovations provided by SAP), Navigation (Logon, Screen Design, Calling Functions), System Kernel (Client/Server Architecture, Structure of an SAP system, Processing in SAP), Communication and Integration Technologies (Remote Function Calls, Internet Technologies).

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 156

abs	n
100.0	0.0

Provides: RNDr. Štefan Pero, RNDr. Edita Vojtová

Date of last modification: 17.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 15.01.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ OPS1/06	**Course name:** Security of computer networks

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: 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: 54

A	B	C	D	E	FX
25.93	22.22	27.78	7.41	16.67	0.0

Provides: doc. RNDr. Jozef Jirásek, PhD., RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ EIB/04	**Course name:** Security of computer systems
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 0	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities: (ÚINF/PDS1/03 or ÚINF/OPS1/11) and ÚINF/KRP1/06	
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
40.0	20.0	20.0	20.0	0.0	0.0

Provides:
Date of last modification: 03.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ VKM/10	**Course name:** Selected topics in mathematics

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: II.

Prerequisities:

Conditions for course completion:
Awarded according to tests during semester (40 points), written exam (20 points), oral exam (40 points).

Learning outcomes:
Students learn the fundamentals of probability theory, random processes, algebra of polynomials, linear and integer optimalization. The emphasis is on practical applications.

Brief outline of the course:
Probability: classical definition, conditional probability, characteristics of random variables, geometrical probability.
Random processes, Markov chains.
Polynomials over a field. Decomposition into irreducible factors. Roots of polynomials.
Formulation of linear and integer programs. Graphic solution. Simplex method. Duality. Algorithm for integer programming.

Recommended literature:
G. Birkhoff, S. MacLane: Prehľad modernej algebry, Alfa Bratislava, 1979
T. Katriňák a kol.: Algebra a teoretická aritmetika 1, Alfa Bratislava, 1985
Plesník, Dupáčová, Vlach: Lineárne programovanie, Alfa, Bratislava 1990
Riečan a kol.:Pravdepodobnosť a matematická štatistika, Alfa, Bratislava, 1984
Skřivánková V.: Pravdepodobnosť v príkladoch, UPJŠ, Košice, 2006

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 23

A	B	C	D	E	FX
13.04	26.09	30.43	13.04	13.04	4.35

Provides: doc. RNDr. Miroslav Ploščica, CSc., doc. RNDr. Roman Soták, PhD.

Date of last modification: 14.02.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ SWB/10	**Course name:** Semantic web
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: 4.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes: To introduce semantic web languages RDF, RDFS and OWL. Modelling ontologies, ontology management systems, ontology databases.	
Brief outline of the course: - Semantic web - motivation, problems, visions. - XML, syntax, programming models DOM, SAX, StAX, namespaces in XML, XPath, XQuery. Examples in of processing in Java. - Semantic web modelling languages: RDF, RDFS, OWL - Semantic web query languages: SPARQL, SeRQL - Software tools: Jena, Sesame, Protege - Introduction to Description logic - Inferencing in Description logic	
Recommended literature: [1]Grigoris Antoniou and Frank van Harmelen: Semantic Web Primer, Second Edition. MIT Press, 2008. ISBN: 978-0-262-01242-3 [2] Franz Baader, Diego Calvanese, Deborah McGuinness, Daniele Nardi, Peter Patel-Schneider: The Description Logic Handbook. Theory, Implementation and Applications [3] http://www.openrdf.org/ [4] http://protege.stanford.edu/ [5] http://jena.sourceforge.net/ [6] http://www.w3.org/TR/rdf-sparql-query/	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 30

A	B	C	D	E	FX
80.0	3.33	10.0	0.0	0.0	6.67

Provides: RNDr. Peter Gurský, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SPS1/00	**Course name:** Seminar in network programming

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., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To render current technologies of programing in network distributed environment.

Brief outline of the course:
Basics of programming the client-server applications, iterative and concurrent servers, Remote Procedure Calls. Server-side programming, CGI, PHP, basics of Perl and Python. Script languages, ASP, JSP, Component Object Model, Corba, database connection's interfaces. Document Object Model, XML, XSL, dynamic extensions of HTML.
Advanced level of programming is expected.

Recommended literature:
Internet sources and specifications.

Course language:

Notes:

Course assessment
Total number of assessed students: 45

A	B	C	D	E	FX
66.67	15.56	15.56	0.0	2.22	0.0

Provides: RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DST1a/01	**Course name:** Seminar in theoretical informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of the theoretical informatics in the seminar form. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: theoretical foundations of informatics.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 2

abs	n
100.0	0.0

Provides: prof. RNDr. Viliam Geffert, DrSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/DST1b/01	**Course name:** Seminar in theoretical informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: II.

Prerequisities: ÚINF/DST1a/01

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of the theoretical informatics in the seminar form. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: theoretical foundations of informatics.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 0

abs	n
0.0	0.0

Provides: prof. RNDr. Viliam Geffert, DrSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DSA1a/06	**Course name:** Seminar on applied informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of applied informatics in the seminar form. To follow current state in the area using conference proceedings and specialized journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses related to information system development, application of combinatorial algorithms etc.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 11

abs	n
90.91	9.09

Provides: doc. RNDr. Gabriel Semanišin, PhD., RNDr. Tomáš Horváth, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/DSA1b/06	**Course name:** Seminar on applied informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: II.

Prerequisities: ÚINF/DSA1a/06

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of applied informatics in the seminar form. To follow current state in the area using conference proceedings and specialized journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses related to information system development, application of combinatorial algorithms etc.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 4

abs	n
100.0	0.0

Provides: doc. RNDr. Gabriel Semanišin, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SPG1/05	**Course name:** Seminar on computer graphics

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., 6.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Seminar is connecte to the lecture UGR Introduction to computer graphics. In seminar form students presents actual theoretical and implementation problems. Main goal in interest is oriented to quick algorithms of computer graphics, geometric modelling and realistic drawing of scenes.
Knowledge from the lecture UGR and good programmers experience are supposed.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 33

A	B	C	D	E	FX
75.76	12.12	9.09	3.03	0.0	0.0

Provides: RNDr. Rastislav Krivoš-Belluš, PhD., doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SDM1a/07	**Course name:** Seminár on data mining

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: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Deepened knowledge and gained overview of the state-of-the-art in the area of data mining.

Brief outline of the course:
The seminar is devoted to study and discussion of recent advances in the field of data mining.

Recommended literature:
Jiawei Han, Micheline Kamber, Jian Pei. Data Mining: Concepts and Techniques. Morgan Kaufmann, ISBN 978-0123814791, 2011.
Pang-Ning Tan, Michael Steinbach, Vipin Kumar. Introduction to Data Mining. Addison-Wesley, ISBN 978-0321321367, 2005.
Ethem Alpazdin. Introduction to Machine Learning, The MIT Press, ISBN 978-0-262-01211-9, 2004.

Course language:

Notes:

Course assessment
Total number of assessed students: 23

A	B	C	D	E	FX
47.83	8.7	21.74	13.04	8.7	0.0

Provides: RNDr. Tomáš Horváth, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DSL1a/01	**Course name:** Seminar on logic of information systems

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of logic of information and knowledge systems in the seminar form. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: logic of information systems.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 5

abs	n
100.0	0.0

Provides: RNDr. Peter Gurský, PhD., RNDr. Tomáš Horváth, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/DSL1b/01	**Course name:** Seminar on logic of information systems

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: II.

Prerequisities: ÚINF/DSL1a/01

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of logic of information and knowledge systems in the seminar form. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: logic of information systems.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 12

abs	n
100.0	0.0

Provides: RNDr. Peter Gurský, PhD., RNDr. Tomáš Horváth, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DSN1a/04	**Course name:** Seminar on neural networks and stringology

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: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of neural networks and stringology in the seminar form. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: neural networks and stringology.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 1

abs	n
100.0	0.0

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/DSN1b/04	**Course name:** Seminar on neural networks and stringology

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: II.

Prerequisities: ÚINF/DSN1a/04

Conditions for course completion:

Learning outcomes:
To study new knowledges in the area of neural networks and stringology in the seminar form. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: neural networks and stringology.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 0

abs	n
0.0	0.0

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DSB1a/01	**Course name:** Seminar on security of computer networks

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: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: the security of computer networks.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 0

abs	n
0.0	0.0

Provides: doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/DSB1b/01	**Course name:** Seminar on security of computer networks

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: II.

Prerequisities: ÚINF/DSB1a/01

Conditions for course completion:

Learning outcomes:
In the seminar form to study new knowledges in the area of cryptology and security of computer networks. To follow current state in the area using conference proceedings and special journals.

Brief outline of the course:
Seminar is oriented to an individual work with students which have the diploma theses in the area: the security of computer networks.

Recommended literature:
Special and research literature connected to Diplomaa theses according to recommendations of supervisor.
Katuščák, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents.

Course language:

Notes:

Course assessment
Total number of assessed students: 3

abs	n
100.0	0.0

Provides: doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SDI1a/03	**Course name:** Seminar to diploma theses in informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities: ÚINF/PDSI1/04

Conditions for course completion:

Learning outcomes:
Monitoring and public presentation of work done so fare on thesis preparation

Brief outline of the course:
Every thesis has a compulsory theoretical part and may also contain a software part. To gain recognition, the following is necessary: a detailed compilation of studied literature (a minimum of thirty pages) and at least twenty pages of text containing the candidate's own views of the problem area, possible research goals, own results are welcome (if the thesis is purely theoretical, this will be judged more strictly). For the SW part: a tested implementation (must conform to user requirements, help and user friendly user interface not necessary at this stage) and access to source texts.
For both parts there will be an oral presentation and discussion.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 110

abs	n
97.27	2.73

Provides: doc. RNDr. Gabriela Andrejková, CSc., doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SDI1b/00	**Course name:** Seminar to diploma theses in informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: II.

Prerequisities: ÚINF/SDI1a/03

Conditions for course completion:

Learning outcomes:
Monitoring and public presentation of work done so fare on thesis preparation

Brief outline of the course:
Every thesis has a compulsory theoretical part and may also contain a software part. To gain recognition, the following is necessary: a detailed compilation of studied literature (a minimum of thirty pages) and at least twenty pages of text containing the candidate's own views of the problem area, possible research goals, own results are welcome (if the thesis is purely theoretical, this will be judged more strictly). For the SW part: a tested implementation (must conform to user requirements, help and user friendly user interface not necessary at this stage) and access to source texts.
For both parts there will be an oral presentation and discussion.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 103

abs	n
100.0	0.0

Provides: doc. RNDr. Gabriela Andrejková, CSc., doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SDI1c/00	**Course name:** Seminar to diploma theses in informatics

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

Number of credits: 2

Recommended semester/trimester of the course: 6.

Course level: II.

Prerequisities: ÚINF/SDI1b/00

Conditions for course completion:

Learning outcomes:
Monitoring and public presentation of work done so fare on thesis preparation

Brief outline of the course:
Every thesis has a compulsory theoretical part and may also contain a software part. To gain recognition, the following is necessary: a detailed compilation of studied literature (a minimum of thirty pages) and at least twenty pages of text containing the candidate's own views of the problem area, possible research goals, own results are welcome (if the thesis is purely theoretical, this will be judged more strictly). For the SW part: a tested implementation (must conform to user requirements, help and user friendly user interface not necessary at this stage) and access to source texts.
For both parts there will be an oral presentation and discussion.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 90

abs	n
100.0	0.0

Provides: doc. RNDr. Gabriela Andrejková, CSc., doc. RNDr. Jozef Jirásek, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SPB/12	**Course name:** Software product in a bussiness environment

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: 3., 5.

Course level: 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: 9

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

Provides: Mgr. Alexander Szabari, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 7160

abs	n	neabs
88.42	7.82	3.76

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, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 6364

abs	n	neabs
84.95	11.06	3.99

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, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 4191

abs	n	neabs
89.91	4.72	5.37

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, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 3363

abs	n	neabs
86.14	6.78	7.08

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, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SMI1/08	**Course name:** Statistical methods in informatics

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To understand probability and statistical terms and principles.
Make students familiar with the base stochastic and statistical methods and techniques for modeling and data processing.

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

Recommended literature:
1. TÖRÖK Cs: Úvod do teórie pravdepodobnosti a matematickej štatistiky, Košice, 1992
2. ALPAYDIN E.: Introduction To Machine Learning, MIT Press, 2004
- http://www2.chass.ncsu.edu/garson/pa765/statnote.htm
- http://www.statsoft.com/textbook/stathome.html
- http://www.r-project.org/

Course language:

Notes:

Course assessment
Total number of assessed students: 430

A	B	C	D	E	FX
3.95	6.05	13.26	24.88	33.72	18.14

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SVK1/00	**Course name:** Student scientific conference

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: 4., 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: 101

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

Provides:

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 63

abs	n
41.27	58.73

Provides: Mgr. Peter Bakalár, PhD.
Date of last modification: 15.01.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 185

abs	n
41.62	58.38

Provides: Mgr. Marek Valanský	
Date of last modification: 15.01.2014	
Approved: prof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SLO1a/06	**Course name:** Symbolic logic

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

Number of credits: 5

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 324

A	B	C	D	E	FX
18.21	7.41	13.58	12.35	33.33	15.12

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 03.02.2014

Approved: prof. RNDr. Viliam Geffert, DrSc.

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: 59

abs	n
25.42	74.58

Provides: PaedDr. Imrich Staško, doc. PhDr. Ivan Šulc, CSc.
Date of last modification: 15.01.2014
Approved: prof. RNDr. Viliam Geffert, DrSc.