COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Oral examination.

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

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

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

Course language:

Course assessment
Total number of assessed students: 789

A	B	C	D	E	FX
24.46	18.12	23.83	18.38	10.01	5.2

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

Date of last modification: 06.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities: ÚINF/AFJ1a/15

Conditions for course completion:
Test and oral examination.

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

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

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

Course language:

Course assessment
Total number of assessed students: 525

A	B	C	D	E	FX
37.9	14.86	19.81	18.29	6.48	2.67

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

Date of last modification: 06.02.2017

Approved: Guaranteeprof. 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

Course assessment
Total number of assessed students: 324

A	B	C	D	E	FX
11.73	8.95	9.88	15.43	40.43	13.58

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

Date of last modification: 22.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ALGa/10	**Course name:** Algebra I

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

Number of credits: 7

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
According to the results from the semester and in view of the results of the written and oral final exam..

Learning outcomes:
To obtain basic knowledge from number theory concerning divisibility and from linear algebra concerning systems of linear equations. To be able to apply it in concrete excercises.

Brief outline of the course:
Divisibility in Z. Fields. Systems of linear equations, Gauss elimination. Maps, permutations. Computing with matrices. Determinants, Cramer rule.

Recommended literature:
T.S Blyth, E.F. Robertson: Basic linear algebra, Springer Verlag, 2001.
K. Jänich: Linear algebra, Springer Verlag, 1991.

Course language:
Slovak

Course assessment
Total number of assessed students: 1336

A	B	C	D	E	FX
10.93	11.98	17.81	17.74	28.89	12.65

Provides: prof. RNDr. Danica Studenovská, CSc., RNDr. Igor Fabrici, Dr. rer. nat., Mgr. Simona Rindošová, RNDr. Martina Tamášová, Mgr. Erika Vojtková

Date of last modification: 22.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Course assessment
Total number of assessed students: 42

A	B	C	D	E	FX
14.29	16.67	16.67	11.9	38.1	2.38

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/APSP/16	**Course name:** SAP Applications in Public Administration / a 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: 3

Recommended semester/trimester of the course:

Course level: I., N

Prerequisities: ÚINF/ZSSP/14 or ÚINF/ZSSP/16

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:

Course assessment
Total number of assessed students: 122

abs	n
100.0	0.0

Provides: Ing. Katarína Ninášová, RNDr. Edita Vojtová, Ing. Slávka Šimková, PhD.

Date of last modification: 23.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ASSP/16	**Course name:** Administration of the 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: 3	
Recommended semester/trimester of the course:	
Course level: I., N	
Prerequisities: ÚINF/ZLSP/14 or ÚINF/ZLSP/16	
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:	
Course assessment Total number of assessed students: 42	

abs	n
90.48	9.52

Provides:	
Date of last modification: 23.02.2017	
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ASU1/15	**Course name:** Algorithms and data structures

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

Number of credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: (ÚINF/PAZ1a/15 and ÚINF/PAZ1b/15) or ÚINF/ePAZ1b/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 93

A	B	C	D	E	FX
8.6	5.38	15.05	22.58	45.16	3.23

Provides: RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 12.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 61

A	B	C	D	E	FX
40.98	22.95	16.39	11.48	6.56	1.64

Provides:

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

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

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

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

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

Course language:

Course assessment
Total number of assessed students: 202

A	B	C	D	E	FX
19.31	17.33	25.74	17.82	17.82	1.98

Provides: doc. RNDr. Gabriela Andrejková, CSc., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Course assessment
Total number of assessed students: 123

A	B	C	D	E	FX
26.02	21.14	26.02	15.45	9.76	1.63

Provides: RNDr. Zuzana Bednárová, PhD., doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ BSSI/15	**Course name:** Informatics I.

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: ÚINF/PAZ1b/15 and ÚINF/DBS1b/15 and ÚINF/OSY1/15 and ÚINF/PSIN/15 and ÚINF/AFJ1b/15 and ÚINF/TVY/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 38

A	B	C	D	E	FX
31.58	26.32	21.05	15.79	5.26	0.0

Provides:

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ BZP1a/15	**Course name:** Special seminar to bachelor thesis

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚINF/PBS/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

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

Course language:

Course assessment
Total number of assessed students: 79

abs	n
93.67	6.33

Provides: RNDr. Ľubomír Antoni, PhD., RNDr. František Galčík, PhD.

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ BZP1b/15	**Course name:** Special seminar to bachelor thesis

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

Number of credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚINF/BZP1a/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:
1. KATUŠČÁK, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998
2. ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure.
3. ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents. 4. Special and research literature connected to Bachalor theses according to recommendations of supervisor.

Course language:

Course assessment
Total number of assessed students: 74

abs	n
98.65	1.35

Provides: RNDr. Ľubomír Antoni, PhD.

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DBS1a/15	**Course name:** Database systems

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

Brief outline of the course:
Data models. Languages for defining and manipulating data (DDL, DML). Tables, attributes and integrity constraints. Queries: select, where, group by, aggregate and system functions. Nested queries and several tables: join, union, primary, foreign key. Relational algebra.

Recommended literature:
- S. Krajčí: Databázové systémy, UPJŠ, 2005
- J. ULLMAN: Principles of database and knowledge – base systems, Comp. Sci. Press., 1988
- R. Ramakrishnan, J. Gehrke, Database Management Systems, McGraw-Hill, 2003
- Itzik Ben-Gun, Microsoft SQL Server 2012 T-SQL Fundamentals, O'Reilly, 2012
- HENDERSON, K.: The Guru's Guide to Transact SQL, Addison Wesley Professional, 2000

Course language:

Course assessment
Total number of assessed students: 791

A	B	C	D	E	FX
11.38	8.98	17.57	22.25	32.36	7.46

Provides: doc. RNDr. Csaba Török, CSc., Mgr. Viliam Kačala

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DBS1b/15	**Course name:** Database systems

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

Number of credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

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

Conditions for course completion:

Learning outcomes:
Mastering the basic techniques of effective design, normalization and programmable extension of relational databases.

Brief outline of the course:
Database modelling. Functional dependency and normalization. Recursion and transitive closure. Cursors. Stored procedures. Indices and B-trees. Triggers. Transaction. XML, SDL, XPath, XQuery.

Recommended literature:
- S. Krajčí: Databázové systémy, UPJŠ, 2005 2. J.
- Date C.J., Database Design and Relational Theory, O'Reilly, 2012
- Atkinson, P., Vierra, R., BEGINNING MICROSOFT SQL SERVER 2012 PROGRAMMING, John Wiley - Wrox, 2012
- Itzik Ben-Gan, Microsoft SQL Server, 2012 T-SQL Fundamentals, O'Reilly, 2012
- L. Davidson, J.M. Moss, Pro SQL Server 2012 Relational database Design and Implementation, APRESS, 2012

Course language:

Course assessment
Total number of assessed students: 678

A	B	C	D	E	FX
10.32	8.11	11.5	23.01	36.28	10.77

Provides: doc. RNDr. Csaba Török, CSc., Mgr. Viliam Kačala

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ DSM3a/10	**Course name:** Discrete mathematics for informaticians

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.

Prerequisities:

Conditions for course completion:
Based on results of two semestral tests.
Based on semestral evaluation and the result of examination (test).

Learning outcomes:
To present the basics of combinatorics and their applications in computer science.

Brief outline of the course:
Mathematical induction and Dirichlet principle. The sum and the product rule. Permutations, k-permutations, combinations. Selections with repetitions. The inclusion/exclusion principle. Recurrent equations. Introduction to graph theory. Trees. Eulerian and Hamiltonian graphs. Planar graphs. Graph colourings.

Recommended literature:
1. S. Jendroľ, P. Mihók: Diskrétna matematika I., UPJŠ Košice 1992
2. J. Nešetřil, J. Matoušek: Kapitoly z diskrétni matematiky
3. E. R. Scheinerman: Mathematics - a discrete introduction, Brooks/Cole Publ. Comp. Pacific Grove 2000.
4. R.P. Grimaldi: Discrete and Computational Mathematics, Addison-Wesley Publ. Co.-Rending 1994.

Course language:
Slovak

Course assessment
Total number of assessed students: 590

A	B	C	D	E	FX
4.41	2.71	4.92	14.58	51.02	22.37

Provides: doc. RNDr. Tomáš Madaras, PhD., RNDr. Mária Maceková, PhD.

Date of last modification: 22.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DWA1/15	**Course name:** Developing web applications with JavaScript

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Principles of JavaScript. Architecture of modern web applications, client-server communications with asynchronous IO programming using NodeJS and MongoDB. Securing web applications. Templates for web page generation. Fundamentals of e-commerce web sites (storefront components, site administration, integrations with third-party services)

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 13

A	B	C	D	E	FX
23.08	15.38	30.77	7.69	23.08	0.0

Provides:

Date of last modification: 23.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ FPI/15	**Course name:** Physics for Informaticists I

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

Number of credits: 4

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

Course level: I.

Prerequisities:

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

Learning outcomes:
Basic knowledge about the mechanics of point mass, system of particles, rigid body, elastic bodies and fluids and gases.

Brief outline of the course:
Basic knowledge of the vector algebra. Standards and units. Kinematics. Dynamics. The principle of relativity in the classical mechanics. Gravitation. Mechanics of many-particle systems. The motion of rigid bodies. Deformation, elasticity. Mechanics of fluids and gases.

Recommended literature:
Hajko V., Daniel-Szabó J.: Základy fyziky, VEDA, Bratislava 1983.
Veis Š., Maďar J., Martišovits V.: Všeobecná fyzika I., Mechanika a molekulová fyzika, ALFA Bratislava, 1987.
Fuka J., Široká M.: Obecná fyzika I / skriptum /, PF Univ. Palackého, Olomouc 1983.
Hlavička A., a kol.: Fyzika pre pedagogické fakulty, SPN, Praha 1971.
Hajko V., a kol.:Fyzika v príkladoch, ALFA Bratislava 1983.
Halliday, D., Resnick, R., Walker, J.: Fyzika, časť 1 Mechanika, VUT Brno, 2000
Halliday, D., Resnick, R., Walker, J.: Fyzika, časť 2 Mechanika - Termodynamika, VUT Brno, 2000
Krempaský J.: Fyzika, ALFA Bratislava 1982.

Course language:
Slovak

Course assessment
Total number of assessed students: 20

A	B	C	D	E	FX
25.0	35.0	25.0	5.0	10.0	0.0
Provides: doc. RNDr. Zuzana Ješková, PhD.					
Date of last modification: 23.02.2017					
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/FUN1/15	**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: 5.

Course level: I.

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

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:

Course assessment
Total number of assessed students: 218

A	B	C	D	E	FX
20.18	12.39	16.06	13.76	36.7	0.92

Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. Ondrej Krídlo, PhD.

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/IFY/09	**Course name:** Physics for Informatics

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: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Two written tests.
Combination of the results of two tests.

Learning outcomes:
Introduction to classical and modern physics.

Brief outline of the course:
The lecture provides an introduction to classical and modern physics, the basics of magnetism and magnetic recording. Popular form explain the theory of relativity, quantum physics and Maxwell's equations.

Recommended literature:
J. B. Seaborn, Understanding the Universe: An Introduction to Physics and Astrophysics, Springer 1997

Course language:

Course assessment
Total number of assessed students: 116

A	B	C	D	E	FX
32.76	25.86	26.72	12.93	1.72	0.0

Provides: doc. RNDr. Ján Füzer, PhD.

Date of last modification: 24.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ JAC1/15	**Course name:** Programming language C

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Practics attendance and activity. Home assigment
Final project.

Learning outcomes:
Become skilled in language C and get knowledge of the theoretical concepts that are used in the development in low-level software.

Brief outline of the course:
1. Installing and setting up the development environment. Simple program in C, compiling and running.
2. Loops, conditions. Introduction to arrays. Numeric functions from numeric library. Compiling with `gcc` and setting up the warnings and hints.
3. Functions. Statically allocated arrays. Array gotchas in C. Makefiles for complex projects.
4. Basic I/O functions. Functions with array parameters and specifics.
5. Dynamic memory allocation as a mechanism for dynamic arrays. Strings as a special case of arrays. Strings and file I/O.
6. String manipulation principles and functions from standard library.
7. Working with binary files.
8. Custom data types. Structs.
9. Dynamic data structures. Linked lists. Stacks and operations with these structs.
10. Additional operations with dynamic data structures. Parameter passing with values and name.
11. Useful tricks and hints: passing parameters from operating system, exit codes. Multidimensional arrays.
12. Function pointers. Generic pointers. Unions.

Recommended literature:
1. A. D. Marshall: Programming in C: UNIX System Calls and Subroutines using C. [online] <http://www.cs.cf.ac.uk/Dave/C/CE.html>
2. J. Maasen: C for Java Programmers. [online] <http://www.cs.vu.nl/~jason/college/dictaat.pdf>
3. Bruce Eckel: Thinking in C. [online] <http://mindview.net/CDs/ThinkingInC>

Course language:

Course assessment

Total number of assessed students: 170

A	B	C	D	E	FX
38.24	20.0	15.29	11.18	11.18	4.12

Provides: RNDr. PhDr. Peter Pisarčík

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/KOPR/15	**Course name:** Concurrent programming

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 92

A	B	C	D	E	FX
32.61	18.48	26.09	10.87	4.35	7.61

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

Date of last modification: 07.02.2017

Approved: Guaranteeprof. 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: Per study period:** 36s **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 329	

abs	n
47.11	52.89

Provides: MUDr. Peter Dombrovský, Mgr. Marek Valanský
Date of last modification: 23.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

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:

Course assessment
Total number of assessed students: 103

A	B	C	D	E	FX
13.59	8.74	10.68	12.62	34.95	19.42

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ LCO/10	**Course name:** Linear and integer 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: 3., 5.

Course level: I.

Prerequisities: ÚMV/ALGa/10

Conditions for course completion:
Two tests, using software CASSIM, oral exam

Learning outcomes:
To learn the solving methods of linear programming

Brief outline of the course:
Formulation of linear and integer programs. Graphic solution. Simplex method, its variants and finiteness. Duality and its economic interpretation. Sensitivity analysis and parametric programming. Algorithms for integer programming.

Recommended literature:
Ch. Papadimitriou – K. Steiglitz: Combinatorial Optimization: Algorithms and Complexity, 1984
R.J. Vanderbei, Linear Programming:Foundations and Extentions (Kluwer 2001), electronic version: http://www.princeton.edu/~rvdb/LPbook/

Course language:
Slovak

Course assessment
Total number of assessed students: 144

A	B	C	D	E	FX
21.53	14.58	20.83	21.53	20.83	0.69

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Andrej Gajdoš

Date of last modification: 22.02.2017

Approved: Guaranteeprof. 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: Per study period:** 36s **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 126	

abs	n
45.24	54.76

Provides: Mgr. Peter Bakalár, PhD.
Date of last modification: 23.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ LOP1/15	**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: 4., 6.

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
Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995
Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997

Course language:

Course assessment
Total number of assessed students: 241

A	B	C	D	E	FX
21.58	10.79	13.69	23.65	28.22	2.07

Provides: RNDr. Ondrej Krídlo, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. 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

Course assessment
Total number of assessed students: 922

A	B	C	D	E	FX
6.94	8.03	13.02	15.73	36.98	19.31

Provides: RNDr. Jaroslav Šupina, PhD., RNDr. Lenka Halčinová, PhD.

Date of last modification: 22.02.2017

Approved: Guaranteeprof. 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

Course assessment
Total number of assessed students: 441

A	B	C	D	E	FX
7.71	8.16	11.56	18.82	39.46	14.29

Provides: RNDr. Jaroslav Šupina, PhD., RNDr. Lenka Halčinová, PhD.

Date of last modification: 22.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MSW/10	**Course name:** Mathematical software

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

Number of credits: 3

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

Course level: I.

Prerequisities:

Conditions for course completion:
Tests from both Excel and Maple
Given at the basis of partial tests.

Learning outcomes:
To develop student's knowledge and skills to use numerical and grafical representations of data and modelling by solving of various types of mathematical problems in environment of spreadsheet and in environment of system of symbolic calculations Maple.

Brief outline of the course:
The creation and use of formulas with mathematical functions, graphical and numerical solving of equations and systems of equations, utilize of arithmetical, graphical and stochastic models by solving of mathematical problems, linear optimalization. Basic description of Maple software, manipulation of mathematical expressions, finding solutions of equalities and inequalities, mathematical analysis, linear algebra, number, graph and set theory in Maple, graphical possibilities of Maple.

Recommended literature:
1. Shingareva, Lizárraga-Celaya: Maple and Mathematica. A problem solving approach for mathematics, Springer Wien NewYork, 2007
2. Eberhart: Maple problem solving handbook, University of Kentucky, 2009
3. Šťastný: Matematické a statistické výpočty v Microsoft Excelu, Computer Press 2001

Course language:
Slovak

Course assessment
Total number of assessed students: 138

A	B	C	D	E	FX
18.12	22.46	23.19	23.91	8.7	3.62

Provides: doc. RNDr. Stanislav Lukáč, PhD., RNDr. Daniel Klein, PhD.

Date of last modification: 22.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ MTL/15	**Course name:** MATLAB and neurocognition

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: I.

Prerequisities:

Conditions for course completion:
quizes, final exam

Learning outcomes:
Intro to programming in MATLAB with focus on its usage in Neural and Cognitive Science.

Brief outline of the course:
Intro to MATLAB: navigation and interaction, variables, vectors, matrices, operators, scripts, functions, toolboxes. Scripts for human-computer interaction in behavioraln experiments. Generation of visual and auditory stimuli. Analysis and visualization of behavioral, neurophyshiological and neuroimaging (fMRI, EEG, MEG) data. Cognitive and neural modeling in MATLAB.

Recommended literature:
1. Wallisch et al. MATLAB for Neuroscientists: An Introduction to Scientific Computing in MATLAB. Academic Press 2008.
2. Duda, Hart, Stork: Pattern Classification, 2nd Edition, Wiley 2000 Stork, Yom-Tow: Computer Manual in MATLAB to accompany Pattern Classification, 2nd Edition, Wiley, 2004
3. Lewandowsky: Computational Modeling in Cognition. Sage, 2011
4. Levine: Introduction to Neural and Cognitive Modeling, Psychology Press, 2000 Dayan and Abbott: Theoretical Neuroscience: Computational and Mathematical Modeling of Neural Systems. MIT Press 2005.

Course language:
Slovak or English

Course assessment
Total number of assessed students: 7

A	B	C	D	E	FX
28.57	14.29	14.29	42.86	0.0	0.0

Provides: doc. Ing. Norbert Kopčo, PhD., Ing. Beáta Tomoriová, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 47

A	B	C	D	E	FX
53.19	12.77	10.64	4.26	10.64	8.51

Provides: PaedDr. Ingrid Puchalová, PhD.

Date of last modification: 20.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/OP/14	**Course name:** Odborná prax
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 2t **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 3., 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 4	

abs	n
100.0	0.0

Provides: Mgr. Alexander Szabari, PhD.
Date of last modification: 07.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ OSS/15	**Course name:** Seminar to operation 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: 3.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15

Conditions for course completion:
Develop two final projects: PowerShell script (Windows) or Shellscript (Linux)

Learning outcomes:
To work with shells of Windowsu and GNU/Linux. Scripting in both platforms.

Brief outline of the course:
Block "Windows Shell Scripting"

PowerShell scripting environment and basic concepts.
Cmdlet as a fundamental unit and its usage.
Cmdlet parameters and documentation. Standard input and output. Pipes. Combining cmdlets via pipelines.
Data model, classes and objects. Object properties. Relation between PowerShell object model and .NET platform.
Developing complex scripts in the PowerShell ISE environment. Fundamentals of procedural programming in PowerShell.
Function and filters. Providers: WMI, registers. Developing custom cmdlets in C#.
Block „Linux Shell Scripting“

Linux Shell Scripting: Bash and fundamental concepts.
Standard input and output. Pipes and I/O redirection.
Common filters for standard I/O.
Basic programming constructs: conditions and loops. Exit codes as a basic for procedural elements
Shell Expansions: arithmetic environment, subshells, variables.
Accessing information structures and Linux filesystem.
Creating complex and secure scripts -- best practices.

Recommended literature:
[1] Bruce Payette, Windows PowerShell in Action, Second Edition, ISBN 9781935182139, Manning 2011
[2] Richard Siddaway, PowerShell in Practice, ISBN: 9781935182009, Manning 2010
[3] Shell Command Language. In: The Open Group Base Specification Issue 6. [online] Available online <http://pubs.opengroup.org/onlinepubs/009695399/utilities/xcu_chap02.html>

[4] Steve Parker, Shell Scripting: Expert Recipes for Linux, Bash and more, ISBN: 978-1-1181-6633-8, Wrox 2011

Course language:
English

Course assessment
Total number of assessed students: 43

A	B	C	D	E	FX
74.42	25.58	0.0	0.0	0.0	0.0

Provides: RNDr. Róbert Novotný, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 194

A	B	C	D	E	FX
27.32	12.89	17.53	18.56	17.01	6.7

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PAI1/13	**Course name:** Legal aspects of 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., 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 24

A	B	C	D	E	FX
12.5	25.0	16.67	12.5	16.67	16.67

Provides: RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 8

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

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

Learning outcomes:

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

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

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

Course assessment
Total number of assessed students: 560

A	B	C	D	E	FX
18.04	7.5	11.43	15.54	13.39	34.11

Provides: RNDr. František Galčík, PhD., RNDr. Zuzana Bednárová, PhD., RNDr. Juraj Šebej, PhD.
Date of last modification: 06.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

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

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

Number of credits: 7

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities: ÚINF/PAZ1a/15

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

Learning outcomes:

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

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

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

Course assessment
Total number of assessed students: 1105

A	B	C	D	E	FX
12.31	6.61	9.41	20.27	22.99	28.42
Provides: RNDr. František Galčík, PhD., PaedDr. Ján Guniš, PhD., RNDr. Zuzana Bednárová, PhD.					
Date of last modification: 06.02.2017					
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PAZ1c/17	**Course name:** Programming, algorithms, and complexity

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

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

Conditions for course completion:
Active attendance at seminars, creation of two team projects.

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

Brief outline of the course:
1. Class identification. Use-cases. Method and instance variable identification. Unit testing in JUnit.
2. Designing CRUD application. Entity identification and design. Entity identity. GUI with Swing. Two-layered architecture, and layers interaction.
3. Interfaces of DAO objects. Maven as dependency manager. Database persistent layer.Connecting database with Spring JDBC Template.
4. Class relationships with static association. Pros and cons in hardwired associations. Implementing Factory design pattern as an abstraction of hardwired association. Enum. Implementation of business logic layer. Three-layered architecture.
5. MVC design pattern. Models and view in Swing. Model examples: static, dynamic, refreshing model.
6. Safe password storage. Associations between classes. Cardinalities: 1:1, 1:M, 1:N. Design and realization in the code.
7. Design of complex data model, ResultSetExtractor, modal windows in Swing.
8. Logging with default tools and with `slf4j` library. Logging best practices. Generic classes, annotations, lambda expressions.
9. Spring Boot and REST services. Json format.
10. Angular 2 - Installation, TypeScript, DOM model, components and their properties, events listeners in components.
11. Angular 2 - components interaction, forms, input validation.
12. Angular 2 - services, Promise, injection, communication with REST server via HTTP.

Recommended literature:
1. SIERRA, K., BATES, B.: Head First Java (2nd Edition), 2005
2. ECKEL, B.: Thinking in Java (4th Edition), 2006
3. Angular Docs, typescript. Dostupné na internete: https://angular.io/docs/ts/latest/

Course language:
Slovak or English.

Course assessment
Total number of assessed students: 302

A	B	C	D	E	FX
34.11	19.54	16.23	14.24	11.26	4.64

Provides: RNDr. Peter Gurský, PhD.

Date of last modification: 06.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PBS/15	**Course name:** Pro-seminar to bachelor thesis
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 1 **Per study period:** 14 **Course method:** present	
Number of credits: 1	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 259	

abs	n
93.05	6.95

Provides: RNDr. Ľubomír Antoni, PhD.
Date of last modification: 07.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

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

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

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

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

Brief outline of the course:
ANGLICKÝ JAZYK PRE GEOGRAFOV:
Veda a výskum. Odbor geografia.
Planéta Zem. Naša slnečná sústava. Litosféra, hydrosféra, atmosféra, biosféra.
Zem - dynamická planéta. Tektonické platne. Sopečná činnosť.
Zemetrasenia.
Svetové oceány. Morské prúdy. Tsunami.
Veľký koralový útes.
Atmosféra - zloženie atmosféry.
Kontinenty. Európa - krajiny, národnosti.
ANGLICKÝ JAZYK PRE EKOLÓGOV:
Veda a výskum. Odbor ekológia.
Životné prostredie. Znečistenie a dôsledky.

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

Recommended literature:
study materials provided by the course instructor

Royds-Irmak, D.E. Beginning Scientific English. Nelson, 1975.
Velebná, B. English for Chemists. ffweb.ff.upjs.sk/vyuka//
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
Powel, M.: Dynamic Presentations. CUP, 2010.
Armer, T.: Cambridge English for Scientists. CUP, 2011.
Wharton J.: Academic Encounters. The Natural World. CUP, 2009.
Murphy, R.: English Grammar in Use. Cambridge University Press, 1994.
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
http://www.bbc.co.uk/worldservice/learningenglish

Course language:

Course assessment
Total number of assessed students: 2304

A	B	C	D	E	FX
32.55	26.26	18.06	11.46	9.24	2.43

Provides: PaedDr. Gabriela Bednáriková, Mgr. Gabriel Lukáč, PhD., PhDr. Helena Petruňová, CSc.

Date of last modification: 21.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

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

Learning outcomes:

Brief outline of the course:

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

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

Course assessment
Total number of assessed students: 334

A	B	C	D	E	FX
29.94	23.65	16.17	11.08	7.49	11.68

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 21.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

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

Learning outcomes:

Brief outline of the course:

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

Course language:

Course assessment
Total number of assessed students: 389

A	B	C	D	E	FX
39.33	18.25	16.97	9.0	6.17	10.28

Provides: PaedDr. Gabriela Bednáriková, Mgr. Barbara Mitríková

Date of last modification: 21.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: CJP/ PFAJKKA/07	**Course name:** Communicative Competence in English

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

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

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

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

Recommended literature:

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

Course language:

English language, B2 level according to CEFR

Course assessment

Total number of assessed students: 211

A	B	C	D	E	FX
36.02	21.33	20.38	10.9	7.58	3.79

Provides: Mgr. Barbara Mitríková

Date of last modification: 21.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PMSP/16	**Course name:** Project Management in the SAP ERP
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 2 / 1 **Per study period:** 28 / 14 **Course method:** present	
Number of credits: 3	
Recommended semester/trimester of the course:	
Course level: I., N	
Prerequisities: ÚINF/ZMSP/14 or ÚINF/ZMSP/16	
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:	
Course assessment Total number of assessed students: 14	

abs	n
92.86	7.14

Provides:
Date of last modification: 09.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/POS2/15	**Course name:** User environments of operating 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: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
(1) Introduction to the user interface of operating systems.
(2) Working with the command line.
(3) Work with files.
(4) Text editors and word processing.
(5) File systems.
(6) Setting of permissions.
(7) Management of processes.
(8) Introduction to scripting.
(9) Packaging systems.
(10) The basic network settings, introduction to firewall settings.
(11) Introduction to the security settings.

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 58

A	B	C	D	E	FX
37.93	10.34	25.86	10.34	12.07	3.45

Provides: RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ PPLO/15	**Course name:** Principles of Computers, Logic Circuits

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
written exam, presence at the laboratory practice

Learning outcomes:
Student will obtain knowledge about principles of functioning, analysis and synthesis of logical electronic circuits, as a basic unit of computing technology. Student will use his theoretical knowledge to design and to construct of electronic circuits and he/she will learn how to interpret measured results.

Brief outline of the course:
1. Combinatorial logical circuits (definitions, laws of logical algebra, electronic models of operations of Boolean algebra, NAND, digital multiplexor and demultiplexor, detector of errors for BDC code, arithmetic addition of two one bit binary operands). 2. Digital memory circuits (bistable circuit as basic memory unit, synchronous and asynchronous switching circuits). 3. Sequentional logical circuits (sequentional behavior, structure and stability of sequentional logical circuits, basic sequentional functions and their realization, arithmetic unit of digital computer)

Recommended literature:
Petrovič P.: Elektronika I – Vybrané obvody číslicovej techniky. Skriptum PF, Edičné stredisko UPJŠ, Košice 2003. 2. vydanie: Vydavateľstvo UPJŠ, Košice, 2006.

Course language:

Course assessment
Total number of assessed students: 50

A	B	C	D	E	FX
36.0	46.0	16.0	2.0	0.0	0.0

Provides: Mgr. Vladimír Komanický, Ph.D.

Date of last modification: 24.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PRO1a/15	**Course name:** Project I.

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

Number of credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 71

A	B	C	D	E	FX
71.83	4.23	11.27	11.27	0.0	1.41

Provides: Mgr. Alexander Szabari, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PRO1b/15	**Course name:** Project II.

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: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 43

A	B	C	D	E	FX
60.47	11.63	11.63	4.65	4.65	6.98

Provides: Mgr. Alexander Szabari, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PRP2/15	**Course name:** Principles of computers

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

Number of credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 147

A	B	C	D	E	FX
34.69	17.01	17.69	14.29	15.65	0.68

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PRR1a/15	**Course name:** Advanced programming

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 67

A	B	C	D	E	FX
52.24	5.97	8.96	4.48	22.39	5.97

Provides: RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PRR1b/15	**Course name:** Advanced programming

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 42

A	B	C	D	E	FX
47.62	4.76	0.0	21.43	16.67	9.52

Provides: RNDr. Rastislav Krivoš-Belluš, PhD., RNDr. Ladislav Mikeš, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PSIN/15	**Course name:** Computer network Internet

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

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

Conditions for course completion:
Activity at excercises, home work, test.
verbal exam, final test

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

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

Recommended literature:
1. J. F. Kurose, Keith W. Ross: Computer Networking: A Top-Down Approach, 5. edícia, 2010
2. A. S. Tanenbaum: Computer Networks, Prentice Hall, 2002
3. W. Stallings: Local and Metropolitan Area Networks, Prentice Hall, 2000
4. E. Comer, R.E. Droms: Computer Networks and Internets, Prentice Hall, 2003

5. W. R. Stevens: TCP/IP Illustrated, Vol.1: The Protocols, Addison-Wesley, 1994

Course language:

Course assessment
Total number of assessed students: 705

A	B	C	D	E	FX
9.79	5.11	11.21	15.89	38.16	19.86

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

Date of last modification: 06.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Evaluation of partial assignments.
The secure dynamic web applications using JavaScript, PHP, MySQL.

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

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

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

Course language:
slovak

Course assessment
Total number of assessed students: 200

A	B	C	D	E	FX
9.5	8.5	9.5	9.0	22.5	41.0
Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD.					
Date of last modification: 07.02.2017					
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PUSP/16	**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: 3	
Recommended semester/trimester of the course:	
Course level: I., N	
Prerequisities: ÚINF/APSP/14 or ÚINF/APSP/16	
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:	
Course assessment Total number of assessed students: 120	

abs	n
100.0	0.0

Provides: Ing. Katarína Ninášová, RNDr. Edita Vojtová, Ing. Slávka Šimková, PhD.
Date of last modification: 23.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

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:

Course assessment
Total number of assessed students: 378

A	B	C	D	E	FX
21.96	10.32	12.96	12.17	28.84	13.76

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SLO1b/15	**Course name:** Symbolic logic

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

Number of credits: 5

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities: ÚINF/SLO1a/15

Conditions for course completion:

Learning outcomes:
To understand basic notions of predicate logic – inductive strutures, completeness.

Brief outline of the course:
Boolean algebras. Syntactic model, completeness of predicate logic. Inductive structures in general.

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:

Course assessment
Total number of assessed students: 45

A	B	C	D	E	FX
28.89	4.44	17.78	6.67	15.56	26.67

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SPG1/15	**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.

Course level: I.

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:

Course assessment
Total number of assessed students: 37

A	B	C	D	E	FX
72.97	13.51	8.11	2.7	0.0	2.7

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

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SPR1a/17	**Course name:** System programming

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

Number of credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚINF/JAC1/15 and ÚINF/OSY1/15

Conditions for course completion:
Executing periodic home-made tasks and developing specific final project.

Learning outcomes:
Gain knowledge of architectures AVR, ARM and x86 and low-level API in the Linux operating system kernel. Gain knowledge about the ecosystem of IoT.

Brief outline of the course:
C-language development and debugging tools; programming microcontrollers: GPIO, interruptions, low-level communication, DMA, timers, ADC; building IoT ecosystem; programming in Linux: system calls and glibc, processes and threads, memory management, file system management, interprocess communication (IPC); synchronization techniques; encrypted communication; virtual file systems.

Recommended literature:
1. Love R.: Linux System Programming, 2nd edition. O'Reilly Media, 2013.
2. Bovet D. P. , Cesati M.: Understanding the Linux Kernel, 3rd edition. O'Reilly Media, 2005.
3. Silberschatz A., and others: Operating system concepts, 9th edition. Wiley, 2013.
4. Noviello C.: Mastering STM32. Leanpub, 2017.
5. Williams E.: AVR Programming, Learning to Write Software for Hardware. Maker Media, 2014.

Course language:
English

Course assessment
Total number of assessed students: 125

A	B	C	D	E	FX
59.2	22.4	11.2	0.0	7.2	0.0

Provides: RNDr. PhDr. Peter Pisarčík

Date of last modification: 06.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SVK1/15	**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: 8.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 138

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

Provides:

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

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

Conditions for course completion:

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

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

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

Course language:

Course assessment
Total number of assessed students: 260

A	B	C	D	E	FX
16.15	18.08	20.0	20.77	23.85	1.15

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SWI1b/15	**Course name:** Software engineering

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

Number of credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚINF/SWI1a/15

Conditions for course completion:

Learning outcomes:
To learn principles and to developed fundamental skills concerning software modelling, development and implementation.

Brief outline of the course:
Software modelling in UML - the syntax and the semantics of UML diagrams. Foundation of Model Driven Architecture. Selected aspects of project management. Selected legal aspects of SW engineering. Pattern design.

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 205

A	B	C	D	E	FX
43.41	16.1	14.15	9.76	15.61	0.98

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/TMS/10	**Course name:** Secrets of microworld

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

Number of credits: 3

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

Course level: I.

Prerequisities:

Conditions for course completion:
term project

Learning outcomes:
To give a review of the recent results form the elementary particle physics for non-physicists layman level.

Brief outline of the course:
Introduction to the topics. Atom, nucleus and the basic forces in Nature. Quarks and classification of elementary particles. Methods and approaches in micro objects research. Contenporary experiments un subnuclear physics - BNL, CERN, JINR Dubna.

Recommended literature:
1.Frank Close: The cosmic onion, Heinemann Educational Books Ltd, 1990
2. Ljubimov A., Kiss D.: Vvedenie v experimentaľnuju fiziku častic, Dubna, 1999
3. J.Žáček: Úvod do fyziky elementárních částic, Karolinum, Praha, 2005
4. R. Mackintosh et al. : Jádro - cesta do srdce hmoty, Academia, Praha, 2003

Course language:
slovak

Course assessment
Total number of assessed students: 66

A	B	C	D	E	FX
74.24	15.15	10.61	0.0	0.0	0.0

Provides: doc. RNDr. Jozef Urbán, CSc., prof. RNDr. Stanislav Vokál, DrSc., RNDr. Janka Vrláková, PhD.

Date of last modification: 20.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

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:

Course assessment
Total number of assessed students: 233

A	B	C	D	E	FX
40.77	11.59	15.02	6.87	6.44	19.31

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. 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:

Course assessment
Total number of assessed students: 10457

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.25	0.0	0.0	0.0	0.0	0.02	7.81	3.92

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

Date of last modification: 23.02.2017

Approved: Guaranteeprof. 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:

Course assessment
Total number of assessed students: 9779

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.09	0.61	0.02	0.0	0.0	0.02	10.36	3.9

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

Date of last modification: 23.02.2017

Approved: Guaranteeprof. 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:

Course assessment
Total number of assessed students: 6188

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
89.66	0.03	0.0	0.0	0.0	0.0	4.36	5.95

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

Date of last modification: 23.02.2017

Approved: Guaranteeprof. 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:

Course assessment
Total number of assessed students: 4644

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.66	0.32	0.04	0.0	0.0	0.0	6.61	7.36

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

Date of last modification: 23.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ TYS1/15	**Course name:** Typographical systems

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 241

A	B	C	D	E	FX
46.89	18.67	19.92	6.64	7.05	0.83

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Course assessment
Total number of assessed students: 273

A	B	C	D	E	FX
14.65	8.79	13.55	23.08	30.77	9.16

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UIB1/17	**Course name:** Introduction to information security

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

Number of credits: 3

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 20

A	B	C	D	E	FX
55.0	25.0	10.0	0.0	5.0	5.0

Provides: RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 11.03.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 189

A	B	C	D	E	FX
32.8	14.29	19.58	12.17	4.76	16.4

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

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Course assessment
Total number of assessed students: 393

A	B	C	D	E	FX
9.92	16.03	23.66	20.87	24.68	4.83

Provides: doc. RNDr. Gabriela Andrejková, CSc., RNDr. Ľubomír Antoni, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UNV1/15	**Course name:** Introduction to neurosciences

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: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Examination

Learning outcomes:
Introduction to anatomy and physiology of human brain, to cognitive processes corresponding to different mental functions, and to computational tools used in neuroscience.

Brief outline of the course:
Description of neural centers of basic cortical functions (visual, auditory, sensory and motor cortex, learning and memory). Basic physiological, psychological, psychophysical and computational methods used in neuroscience with focus on the application of computational tools for electrophysiological brain activity recording and imaging (e.g., magnetic resonance). Computational applications of neuroscience research.

Recommended literature:
1. Gazzaniga M. (ed.): The New Cognitive Neurosciences. 2nd ed. MIT Press. 1999
2. Dayan P and LF Abbott: Theoretical Neuroscience - Computational and Mathematical Modeling of Neural Systems. MIT Press, 2001
3. Stillings et al.: Cognitive Science: An Introduction, 2nd ed., MIT Press, 1995

Course language:
Slovak or English

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX
15.79	15.79	21.05	31.58	15.79	0.0

Provides: doc. Ing. Norbert Kopčo, PhD., Ing. Beáta Tomoriová, PhD.

Date of last modification: 07.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UPR1/15	**Course name:** Introduction to law for informatics

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.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 7

A	B	C	D	E	FX
0.0	28.57	0.0	28.57	42.86	0.0

Provides: RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: Dek. PF UPJŠ/USPV/13	**Course name:** Introduction to Study of Sciences

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: Per study period: 12s / 3d
Course method: present

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 1136

abs	n
91.37	8.63

Provides: doc. RNDr. Gabriel Semanišin, PhD.

Date of last modification: 13.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/VKBa/15	**Course name:** Selected topics in 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: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 9

A	B	C	D	E	FX
66.67	22.22	11.11	0.0	0.0	0.0

Provides: doc. RNDr. Jozef Jirásek, PhD., RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/VKBb/15	**Course name:** Selected topics in 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., 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 4

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

Provides: doc. RNDr. Jozef Jirásek, PhD., RNDr. JUDr. Pavol Sokol, PhD.

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ VKT/15	**Course name:** Modern information technologies in applications

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: 4., 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 1

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

Provides: RNDr. Peter Marcinčák

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ VMA1/15	**Course name:** Development of mobile applications

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

Number of credits: 3

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 56

A	B	C	D	E	FX
51.79	5.36	8.93	7.14	1.79	25.0

Provides: RNDr. Róbert Novotný, PhD., RNDr. Miroslav Opiela

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ZIV1/16	**Course name:** Internet of Things

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: 4., 6.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15 and ÚINF/JAC1/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
The course focuses on basic concepts and current trends in the area of Internet of Things (IoT). We emphasize its interdisciplinary and relationship to other traditional areas of computer science. The course includes an introduction to programming of IoT devices (sensors, low-level protocols, development platforms, single-board computers, etc.), an overview of communication and network technologies (Bluetooth LE, WiFi, LoRa, etc.), demonstrations of application and data protocols (MQTT, CoAP, AMQP, Websocket, ...), patterns and use-cases of design and implementation of IoT solutions.

Recommended literature:

Course language:

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: RNDr. František Galčík, PhD., RNDr. Miroslav Opiela

Date of last modification: 09.03.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ZKSP/16	**Course name:** Essentials of SAP for Consultants

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

Number of credits: 3

Recommended semester/trimester of the course:

Course level: I., N

Prerequisities: ÚINF/ZTSP/14 or ÚINF/ZTSP/16

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:

Course assessment
Total number of assessed students: 0

abs	n
0.0	0.0

Provides:

Date of last modification: 09.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ZLSP/16	**Course name:** Essentials of Linux for the 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: 3	
Recommended semester/trimester of the course:	
Course level: I., N	
Prerequisities: ÚINF/ZTSP/14	
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:	
Course assessment Total number of assessed students: 44	

abs	n
88.64	11.36

Provides: Mgr. Karol Seman	
Date of last modification: 23.02.2017	
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ZSSP/16	**Course name:** Essentials of the SAP System for 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: 3

Recommended semester/trimester of the course:

Course level: I., N

Prerequisities: ÚINF/ZTSP/14 or ÚINF/ZTSP/16

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:

Course assessment
Total number of assessed students: 45

abs	n
97.78	2.22

Provides: Ing. Katarína Ninášová, Ing. Slávka Šimková, PhD., RNDr. Edita Vojtová

Date of last modification: 23.02.2017

Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ZTSP/16	**Course name:** Essentials of the SAP Technology

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:

Course level: I., 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:

Course assessment
Total number of assessed students: 85

abs	n
97.65	2.35

Provides: Ing. Slávka Šimková, PhD.

Date of last modification: 23.02.2017

Approved: Guaranteeprof. 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: Per study period:** 36s **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 15	

abs	n
26.67	73.33

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.
Date of last modification: 23.02.2017
Approved: Guaranteeprof. RNDr. Viliam Geffert, DrSc.