COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ AFJ1a/03	**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 and J.D.Ullman. Formal languages and their relation to automata. Addison-Wesley. (Slovak translation published by ALFA, Bratislava, 1978).
M.Chytil. Automata and grammars. SNTL, 1984. (In Czech).
J.van Leeuwen (ed.): Handbook of theoretical computer science. North-Holland, 1990.

Course language:

Notes:

Course assessment
Total number of assessed students: 718

A	B	C	D	E	FX
22.7	17.69	24.65	18.8	10.72	5.43

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ZPIRa/04	**Course name:** 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/07	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 168

abs	n
100.0	0.0

Provides: RNDr. Peter Gurský, PhD., doc. RNDr. Jozef Jirásek, PhD., doc. RNDr. Gabriela Andrejková, CSc.
Date of last modification: 03.02.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ ZPIRb/04	**Course name:** Bachelor thesis
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: 6	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 167

abs	n
99.4	0.6

Provides: RNDr. Peter Gurský, PhD., RNDr. František Galčík, PhD., doc. RNDr. Gabriela Andrejková, CSc.
Date of last modification: 03.02.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:
Written test

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 1069

A	B	C	D	E	FX
36.3	23.48	16.0	15.9	7.86	0.47

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 13.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 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:

Notes:

Course assessment
Total number of assessed students: 751

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

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PSIN/13	**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/10 or ÚINF/ePAZ1a/11

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:
ISO OSI reference model. Web and HTTP, e-mail and SMTP, domain names and DNS, Peer-to-peer applications. Security in computer networks. Transport layer services, multiplexing and demultiplexing, protocol UDP, reliable data transfer, connection oriented transport protocol TCP, congestion control. Network Layer: Internet protocol IPv4 and IPv6, addressing, network address translation, routing algorithms and protocols. Link layer: error detection, multiple access methods CSMA/CD and CSMA/CA, Ethernet, 802.11 Wireless LAN, link layer addressing, VLANs, mobility, mobile technologies. 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:

Notes:

Course assessment
Total number of assessed students: 625

A	B	C	D	E	FX
9.6	4.48	10.08	15.52	38.24	22.08

Provides: RNDr. Peter Gurský, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DBS1a/03	**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.

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:

Notes:

Course assessment
Total number of assessed students: 718

A	B	C	D	E	FX
11.56	9.19	16.85	22.56	31.48	8.36

Provides: doc. RNDr. Csaba Török, CSc., Mgr. Maroš Andrejko, RNDr. Lukáš Miňo

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ DBS1b/03	**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/03 or ÚINF/eDBS1a/11

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:

Notes:

Course assessment
Total number of assessed students: 608

A	B	C	D	E	FX
10.36	7.73	10.86	22.2	36.84	12.01

Provides: doc. RNDr. Csaba Török, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

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

Notes:

Course assessment
Total number of assessed students: 521

A	B	C	D	E	FX
4.03	2.3	3.84	13.24	52.02	24.57

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

Date of last modification: 14.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ SL1/05	**Course name:** Education-related Legislation

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

Number of credits: 2

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 337

A	B	C	D	E	FX
39.17	31.16	16.91	4.15	1.78	6.82

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

Date of last modification: 04.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

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:
test na slovnú zásobu, ústna prezentácia, záverečný písomný test, účasť na seminároch (max. 2 absencie)
stupnica hodnotenia: A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 a menej

Learning outcomes:
Rozvoj jazykových kompetencií študentov príslušného študijného odboru, upevňovanie a rozvíjanie všetkých jazykových zručností (hovorenie, písanie, čítanie, počúvanie) predovšetkým v odbornej/profesnej angličtine, na stredne pokročilej úrovni ovládania jazyka (B2). Dôraz sa kladie na aktívne správne používanie odbornej/profesnej angličtiny.

Brief outline of the course:
ANGLICKÝ JAZYK PRE GEOGRAFOV:
Veda a výskum. Odbor geografia.
Planéta Zem. Naša slnečná sústava. Litosféra, hydrosféra, atmosféra, biosféra.
Zem - dynamická planéta. Tektonické platne. Sopečná činnosť.
Zemetrasenia.
Svetové oceány. Morské prúdy. Tsunami.
Veľký koralový útes.
Atmosféra - zloženie atmosféry.
Kontinenty. Európa - krajiny, národnosti.
ANGLICKÝ JAZYK PRE EKOLÓGOV:
Veda a výskum. Odbor ekológia.
Životné prostredie. Znečistenie a dôsledky.
Sopečná činnosť, zemetrasenia.
Great Pacific Garbage Patch.
Globálne otepľovanie a dôsledky. Ľadovce.
Počasie a klíma. Búrky, hurikány, tsunami.
Život na Zemi. Ohrozené rastlinné a živočíšne druhy.
ANGLICKÝ JAZYK PRE BIOLÓGOV:
veda a výskum, odbor biológia
morfológia rastlín, koreň

stonka, list
rozmnožovanie rastlín, kvet
biológia človeka - telesné sústavy
slovná zásoba z oblasti botanickej a zoologickej nomenklatúry
ANGLICKÝ JAZYK PRE MATEMATIKOV:
Veda a výskum, odbor matematika
čísla a tvary v matematike
Elementárna algebra
Elementárna geometria
Výpočty v matematike
Pytagoras, Pytagorova veta
Grafy a diagramy
Štatistika
ANGLICKÝ JAZYK PRE FYZIKOV
Veda a výskum, odbor fyzika
Atómy a molekuly
Hmota a jej premeny
Elektrina, jej využitie
Zvuka, jeho prenos
Svetlo
Solárny systém
Matematické operácie
ANGLICKÝ JAZYK PRE CHEMIKOV:
Veda a výskum, odbor chémia:
História, alchímia
Nomenklatúra
Laboratórium a jeho vybavenie
Periodická tabuľka
Hmota a jej premeny
Organická chémia
Anorganická chémia
ANGLICKÝ JAZYK PRE INFORMATIKOV:
Veda a výskum, informatika
Život s počítačom
Typický PC
Zdravie a bezpečnosť, ergonomika
Programovanie
Emailovanie
Cybercrime
Trendy budúcnosti

Recommended literature:

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

Redman, s.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press. 2003.
P. Fitzgerald : English for ICT studies, Garnet Publishing, 2011

Course language:

Notes:

Course assessment
Total number of assessed students: 1860

A	B	C	D	E	FX
31.72	25.54	18.28	11.94	9.52	3.01

Provides: PhDr. Helena Petruňová, CSc., PaedDr. Gabriela Bednáriková, Mgr. Marianna Škultétyová, Mgr. Silvia Marcinová, PhD.

Date of last modification: 06.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ ZSKP/05	**Course name:** Essentials of School Pedagogy

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: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 268

A	B	C	D	E	FX
11.19	16.42	26.49	19.03	5.6	21.27

Provides: PaedDr. Renáta Orosová, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities: ÚINF/PAZ1c/03

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 4

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

Provides: doc. Ing. Štefánia Gallová, CSc.

Date of last modification: 25.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/ OJPV1/07	**Course name:** German Language for Specific Purposes - German in Natural Sciences 1

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 120

A	B	C	D	E	FX
19.17	20.83	27.5	23.33	8.33	0.83

Provides: Mgr. Eva Černáková, PhD., Dr. rer. pol. Michaela Kováčová

Date of last modification: 05.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KFaDF/ DF1/05	**Course name:** History of Philosophy and Philosophy of Education - Cultural and Socio-Anthropological Relations

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 392

A	B	C	D	E	FX
63.52	16.58	10.97	5.87	2.55	0.51

Provides: doc. PhDr. Pavol Tholt, PhD., mim.prof., Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 26.01.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB10/14	**Course name:** IB10 - Medzinárodný certifikát ECo-C
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB11/14	**Course name:** IB11 - Medzinárodný certifikát ECDL
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 14	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB12/14	**Course name:** IB12 - Používanie, administrácia a vývoj v systéme SAP
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 54	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 16

Recommended semester/trimester of the course:

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

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB2/14	**Course name:** IB2 - Právne minimum – súkromnoprávne aspekty
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB3/14	**Course name:** IB3 - Právne minimum – verejnoprávne aspekty
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: R UPJŠ/ IB4/14	**Course name:** IB4 - Projektový manažment

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

Number of credits: 20

Recommended semester/trimester of the course:

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

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB5/14	**Course name:** IB5 - Manažérska ekonomika
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB6/14	**Course name:** IB6 - Riešenie konfliktných a krízových situácií v školskej praxi
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB7/14	**Course name:** IB7 - Štatistika pre prax
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB8/14	**Course name:** IB8 - Environmentálne aspekty záťaže životného prostredia
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB9/14	**Course name:** IB9 - Medzinárodný certifikát TOEFL

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

Number of credits: 17

Recommended semester/trimester of the course:

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

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ IKTP/10	**Course name:** Information and Communication Technologies

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

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

Recommended literature:
1. Franců, M: Jak zvládnout testy ECDL. Praha : Computer Press. 2007. 160 s. ISBN 978-80-251-1485-8
2. Jančařík, A. et al.: S počítačem do Evropy – ECDL. 2. vydanie. Praha : Computer Press, 2007. 152 s. ISBN 80-251-1844-3
3. Kolektív autorov: Sylabus ECDL verzia 5.0. [on-line] [citované 9.2.2010]. Dostupné na internete: <http://www.ecdl.sk/buxus/docs//interne_informacie/Sylabus_V5.0/20090630ECDL-SylabusV50_SK-V01_FIN.pdf>
4. Kalakay, R. et al: Informačné a komunikačné technológie - prezenčný kurz. [on-line] [citované 9.2.2010]. Dostupné na internete: <http://moodle.science.upjs.sk/course/view.php?id=90>

Course language:

Notes:

Course assessment
Total number of assessed students: 970

A	B	C	D	E	FX
66.8	17.63	6.91	3.51	1.75	3.4

Provides: Mgr. Alexander Szabari, PhD., RNDr. Jozef Studenovský, CSc., RNDr. Zuzana Bednárová, PhD., doc. Ing. Štefánia Gallová, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ IKTD/10	**Course name:** Information and Communication Technologies - distance learning

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

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

Recommended literature:
1. Franců, M: Jak zvládnout testy ECDL. Praha : Computer Press. 2007. 160 s. ISBN 978-80-251-1485-8
2. Jančařík, A. et al.: S počítačem do Evropy – ECDL. 2. vydanie. Praha : Computer Press, 2007. 152 s. ISBN 80-251-1844-3
3. Kolektív autorov: Sylabus ECDL verzia 5.0. [on-line] [citované 9.2.2010]. Dostupné na internete: <http://www.ecdl.sk/buxus/docs//interne_informacie/Sylabus_V5.0/20090630ECDL-SylabusV50_SK-V01_FIN.pdf>
4. Kalakay, R. et al: Informačné a komunikačné technológie - prezenčný kurz. [on-line] [citované 9.2.2010]. Dostupné na internete: <http://moodle.science.upjs.sk/course/view.php?id=90>

Course language:

Notes:

Course assessment
Total number of assessed students: 113

A	B	C	D	E	FX
75.22	7.08	3.54	0.0	3.54	10.62

Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. Jozef Studenovský, CSc., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 216

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

Provides: RNDr. Rastislav Krivoš-Belluš, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UKR1/09	**Course name:** Introduction to Cryptology

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

Number of credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Learn basic design principals and algorithms of symmetric and asymmetric cryptography. Specify how cryptographic tools are applied to achieve privacy and authentication. Understand both the importance of cryptographic key management, and the different key management requirements and practices associated with the use of different security techniques.

Brief outline of the course:
Cryptosystems, basic principles, breaking a cryptosystem, notions of cryptographic security. Classical cryptography and cryptoanalysis, block ciphers, stream ciphers. Public-key encryption, message authentication, signature schemes, hash functions, techniques for entity authentication and digital signatures. Protocols for key establishment, transport, agreement and maintenance. Certification and public-key infrastructure management.

Recommended literature:
STINSON, D. R. Cryptography: Theory and Practie. CRC Press, 2005.
MAO, W. Modern Cryptography: Theory and Practice. Prentice Hall, 2003.
SCHNEIER, B. Applied Cryptography. Wiley, 1996.
MENEZES, A., OORSCHOT, P. van, VANSTONE, S. Handbook of Applied Cryptography. CRC Press, 1996.

Course language:

Notes:

Course assessment
Total number of assessed students: 84

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

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 336

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

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ UIN1/13	**Course name:** Introduction to study of 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: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 159

A	B	C	D	E	FX
30.19	21.38	18.24	15.72	5.03	9.43

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

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

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

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

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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 132

A	B	C	D	E	FX
0.0	5.3	7.58	10.61	44.7	31.82

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

Date of last modification: 14.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/MZIa/10

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

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

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

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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 43

A	B	C	D	E	FX
0.0	9.3	9.3	13.95	53.49	13.95

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

Date of last modification: 14.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/OSY1/11	**Course name:** Operating systems

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

Number of credits: 4

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities: ÚINF/PAZ1a/10

Conditions for course completion:
Written tests.

Learning outcomes:
The purpose of the operating systems subject is to provide the students how to organize and control hardware and software so that the device is live and behaves in a flexible but predictable way.

Brief outline of the course:
Operating systems structure and components, process, files, threads, CPU processor scheduling, schedule algorithms, interprocess communi-cations, deadlocks, synchronization, multitasking, virtualisation.

Recommended literature:
STALLINGS, W.: Operating Systems. Internal and Design Principles. Pearson, Prentice Hall, 2005.
SILBERSCHATZ, A. et al.: Operating Systems Concepts. Addison-Wesley, Reading MA, 2000.

Course language:

Notes:

Course assessment
Total number of assessed students: 102

A	B	C	D	E	FX
32.35	6.86	17.65	12.75	19.61	10.78

Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. Peter Gurský, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PRP2/14	**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:

Notes:

Course assessment
Total number of assessed students: 66

A	B	C	D	E	FX
34.85	10.61	19.7	13.64	19.7	1.52

Provides: doc. Ing. Štefánia Gallová, CSc.

Date of last modification: 19.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PAZ1a/10	**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:	
Learning outcomes: The course does not require having any programming experiences. The aim of the course is to teach students basics of algorithms and programming. The methodology used in the course is "object oriented programming first". The primary goal of the course is to teach students to make good programming habits and a good object-oriented design. The programming language used in the course is Java with professional IDE Eclipse.	
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: ECKEL, B.: Thinking in Java, Pearson, 2006 SIERRA, K., BATES, B.: Head First Java, O'Reilly Media; 2nd edition, 2005	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 421

A	B	C	D	E	FX
15.68	7.84	12.35	15.2	12.59	36.34

Provides: RNDr. Peter Gurský, PhD., RNDr. František Galčík, PhD., PaedDr. Ján Guniš, PhD., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PAZ1b/03	**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/10 or ÚFV/POF1b/99

Conditions for course completion:
Oral and practical examination.

Learning outcomes:
To understand basic principles of algorithm design (including basic data structures). To apply these principles and knowledge to solve simple algorithmic tasks efficiently.

Brief outline of the course:
Recursion, introduction to time complexity and O-notation, binary search and sorting algorithms (SelectionSort, QuickSort, MergeSort, HeapSort), basic data structures (linked list, stack, queue, trees, binary search trees) – implementation and applications, backtracking, divide and conquer, dynamic programming, greedy algorithms, basic graph algorithms (DFS, BFS, Dijkstra's algorithms, Bellman-Ford algorithm, Floyd-Warshall algorithm, topological sorting), introduction to stringology.

Recommended literature:
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:

Notes:

Course assessment
Total number of assessed students: 991

A	B	C	D	E	FX
11.2	6.26	9.89	20.18	24.22	28.25

Provides: RNDr. František Galčík, PhD., PaedDr. Ján Guniš, PhD., RNDr. Zuzana Bednárová, PhD., Mgr. Matej Nikorovič, doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/PRS/11	**Course name:** Programming of robotic kits

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 0 / 3 **Per study period:** 0 / 42
Course method: present

Number of credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:
Assessment of individual work on computers for a number of sub-assignments - robotic mini-project.
Creating and presenting a programmed robotic model including documentation.

Learning outcomes:
- To acquire an overview of robotic sets and robotic programming environments.
- To acquire skills in constructing and programming robots in selected robotic programming environments.

Brief outline of the course:
Robotic set (Lego Mindstorms) - components, engines, sensors, basics of constructing of the mechanical parts of the model. Programming robotic models in languages NXT-G and NXC - branching statements, loops, blocks, events, parallel processes that work with sensors, datalogging, communication among several NXT bricks. Creating mini-project (eg, traffic lights, parking, dance creations, guitar, smart thermometer, measuring distance). Robotic competition, ideas for demanding projects. Creation and presentation of the final project - a programmed robot model (eg, navigate a maze, sports, paramedic) including documentation.

Recommended literature:
1. BUMGARDNER, J. (2007) The Origins of Mindstorms. Wired, 2007. http://www.wired.com/geekdad/2007/03/the_origins_of_/
2. Carnegie Mellon. Robotics Academy. http://www.education.rec.ri.cmu.edu/
3. KABÁTOVÁ, M. a kol. (2010) Ďalšie vzdelávanie učiteľov základných škôl a stredných škôl v predmete informatika: Didaktika robotických stavebníc. Bratislava : ŠPÚ, 2010. ISBN 978-80-8118-070-5
4. KABÁTOVÁ, M. - PEKÁROVÁ, J. (2008) Hra = učenie sa. LEGO a robotika vo vyučovaní budúcich učiteľov. Didinfo 2008. Banská Bystrica: FPV UMB. ISBN 978-80-8083-556-9
5. PETROVIČ, P. - BALOGH, R. - PEKÁROVÁ, J. (2008) Robotické vzdelávacie iniciatívy. In: Informatika v škole a v praxi. Zborník 4. ročníka medzinárodnej konferencie. Ružomberok: Pedagogická fakulta Katolíckej univerzity v Ružomberku, str. 239 – 248. ISBN 978-80-8084-362-5

Course language:

Notes:

Course assessment
Total number of assessed students: 35

A	B	C	D	E	FX
51.43	17.14	17.14	0.0	0.0	14.29

Provides: RNDr. Ľubomír Šnajder, PhD., RNDr. Jozef Studenovský, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

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: 2., 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

Notes:

Course assessment
Total number of assessed students: 165

A	B	C	D	E	FX
9.09	7.88	7.88	6.67	24.24	44.24

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PBS/07	**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: The seminar is oriented to problems prospective to preparations of Bachelor theses.	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 184	

abs	n
90.22	9.78

Provides: RNDr. Tomáš Horváth, PhD., RNDr. František Galčík, PhD.	
Date of last modification: 03.02.2014	
Approved: doc. RNDr. Stanislav Krajči, PhD.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PPZBc/12	**Course name:** Psychology and Health Psychology (Bc. study)

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 92

A	B	C	D	E	FX
14.13	20.65	25.0	28.26	11.96	0.0

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

Date of last modification: 04.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ BSI1a/04	**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: 5.

Course level: I.

Prerequisities:

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

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 171

A	B	C	D	E	FX
17.54	16.96	24.56	18.13	20.47	2.34

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ BSI1b/04	**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: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 98

A	B	C	D	E	FX
22.45	21.43	26.53	18.37	10.2	1.02

Provides: doc. RNDr. Gabriela Andrejková, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/SWI1/07	**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: 4.

Course level: I.

Prerequisities: ÚINF/DBS1a/03

Conditions for course completion:

Learning outcomes:

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

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 59

A	B	C	D	E	FX
1.69	10.17	15.25	20.34	37.29	15.25

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 324

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

Provides: doc. RNDr. Stanislav Krajči, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ SPP1a/14	**Course name:** Školské programovacie prostredia I.

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

Number of credits: 4

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 240

A	B	C	D	E	FX
36.25	20.0	17.08	10.42	9.17	7.08

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

Date of last modification: 11.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ SPP1b/14	**Course name:** Školské programovacie prostredia II.
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 2 / 2 **Per study period:** 28 / 28 **Course method:** present	
Number of credits: 4	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Creation of educational project in selected children's programming environment (Scratch/ AppInventor). Designing and presentation of graded tasks collection in selected children's programming environment.	
Learning outcomes: 1. To get an overview of children's programming environments. 2. To acquire programming skills in selected children's programming environments. 3. To compile a collection of graded learning tasks on programming.	
Brief outline of the course: Teaching of algorithms and programming in elementary school - the objectives, content, textbooks and methodological materials. Algorithmic computer games. Overview of children's programming environments. Programming in Scratch/AppInventor, creating educational projects. Creating graded set of tasks to selected children's programming environment.	
Recommended literature: 1. LOVÁSZOVÁ, G. a kol. (2010) Ďalšie vzdelávanie učiteľov základných škôl a stredných škôl v predmete informatika: Malé programovacie jazyky. Bratislava : ŠPÚ, 2010. ISBN 978-80-8118-066-8 2. SALANCI, Ľ. a kol. (2010) Ďalšie vzdelávanie učiteľov základných škôl a stredných škôl v predmete informatika: Didaktika programovania. Bratislava : ŠPÚ, 2010. ISBN 978-80-8118-065-1 3. LOVÁSZOVÁ, G. a kol. (2011) Ďalšie vzdelávanie učiteľov základných škôl a stredných škôl v predmete informatika: Didaktika programovania pre ZŠ 1. Bratislava : ŠPÚ, 2010. ISBN 978-80-8118-080-4 4. LOVÁSZOVÁ, G. a kol. (2011) Ďalšie vzdelávanie učiteľov základných škôl a stredných škôl v predmete informatika: Didaktika programovania pre ZŠ 2. Bratislava : ŠPÚ, 2010. ISBN 978–80–8118–091-0	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 7

A	B	C	D	E	FX
85.71	0.0	14.29	0.0	0.0	0.0

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

Date of last modification: 11.02.2014

Approved: doc. RNDr. Stanislav Krajči, PhD.