

Course descriptions

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COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-236/15		Course title: Algorithms and Data Structures			
Educational activities: Type of activities: course Number of hours: per week: 4 per level/semester: 52 Form of the course: on-site learning					
Number of credits: 5					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-241/15 - Programming (3)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 39					
A	B	C	D	E	FX
20,51	15,38	15,38	20,51	20,51	7,69
Lecturers: doc. RNDr. Zuzana Kubincová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/1-UFY-241/10	Course title: Atomic and Nuclear Physics
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 3 / 1 per level/semester: 39 / 13 Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 4.	
Educational level: I.	
Prerequisites:	
Course requirements: Continuous assessment: presentation of homework results (3x10 marks) Exam: written (40 marks), oral (30 marks) Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Credits will be awarded if the student obtains at least 50% points.	
Learning outcomes: Graduates have a basic knowledge of Atomic and Nuclear Physics at the level of a core university course in general physics. They know how to use the concepts and methods of atomic and nuclear physics in solving problem situations. They have an idea of the boundaries between high school and university physics in the field of nuclear and nuclear in terms of work with high school youth with an increased interest in physics.	
Class syllabus: Photoelectric effect, Compton effect, Rutherford experiment, Bohr model, timeless Schrödinger equation, structure of atoms and molecules, basic properties of nuclei, structure of nuclei, transformation of nuclei, nuclear reactions, nuclear power plant, particle accelerators.	
Recommended literature: Fyzika část 5. Moderní fyzika : Vysokoškolská učebnice obecné fyziky / David Halliday, Robert Resnick, Jearl Walker ; přeložili Bohumila Lencová ... [et al.]. Brno : Vysoké učení technické VUTÍUM, 2000 Všeobecná fyzika : 4 : atómová fyzika / Ján Vanovič. Bratislava : Alfa, 1980 Physics : principles with applications / Douglas C. Giancoli. Upper Saddle River, N.J. : Pearson/Prentice Hall, 2005 Own electronic texts of the subject published through the course website.	
Languages necessary to complete the course: Slovak and English.	
Notes:	

Past grade distribution					
Total number of evaluated students: 147					
A	B	C	D	E	FX
22,45	15,65	19,73	15,65	22,45	4,08
Lecturers: RNDr. Radoslav Böhm, PhD., Ing. Jakub Kaizer, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-936/13		Course title: BSc Thesis in Computer Science Seminar (1)			
Educational activities: Type of activities: seminar Number of hours: per week: 1 per level/semester: 13 Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 5.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 19					
A	B	C	D	E	FX
89,47	0,0	0,0	0,0	5,26	5,26
Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change:					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-935/13		Course title: BSc Thesis in Computer Science Seminar (2)			
Educational activities: Type of activities: seminar Number of hours: per week: 1 per level/semester: 13 Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 15					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change:					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-937/17		Course title: BSc Thesis in Physics Seminar (1)			
Educational activities: Type of activities: seminar Number of hours: per week: 1 per level/semester: 13 Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 5.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 33					
A	B	C	D	E	FX
96,97	0,0	0,0	0,0	0,0	3,03
Lecturers: doc. PaedDr. Klára Velmovská, PhD.					
Last change: 06.02.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-938/17		Course title: BSc Thesis in Physics Seminar (2)			
Educational activities: Type of activities: seminar Number of hours: per week: 1 per level/semester: 13 Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 30					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. RNDr. Peter Demkanin, PhD., PaedDr. Tünde Kiss, PhD.					
Last change: 06.02.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KAI/1-AIN-407/15		Course title: Brain and Mind			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 1., 3., 5.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 154					
A	B	C	D	E	FX
48,05	18,83	15,58	8,44	2,6	6,49
Lecturers: RNDr. Barbora Cimrová, PhD., doc. PhDr. Ján Rybár, PhD.					
Last change: 21.03.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-160/15		Course title: Calculus for Physics Teachers			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: solving problems (3x10 marks), homeworks (3x10 marks), tests (2x20 marks) Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: By completing the course, students will expand and supplement their knowledge of selected parts of mathematics and can use them in solving physics problems.					
Class syllabus: Matrices, determinants. linear combination of vectors. Trigonometric functions and their graphs, trigonometric equations. Equation of the tangent. Function limit. Indefinite integral, decomposition into partial fractions, improper integral. Complex numbers, properties and operations. Algebraic, trigonometric and exponential form of complex numbers.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 60					
A	B	C	D	E	FX
56,67	15,0	8,33	8,33	5,0	6,67
Lecturers: doc. PaedDr. Klára Velmovská, PhD., Mgr. Anna Trúsiková, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KAI/1-AIN-408/15		Course title: Cognitive Laboratory			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1., 3., 5.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 54					
A	B	C	D	E	FX
70,37	12,96	7,41	1,85	0,0	7,41
Lecturers: doc. PhDr. Ján Rybár, PhD.					
Last change: 14.03.2022					
Approved by:					

STATE EXAM DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UXX-991/15	Course title: Colloquium Defence of BSc Thesis
Number of credits: 12	
Educational level: I.	
State exam syllabus:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-181/15		Course title: Complementary Exercises in Mechanics			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: A series of written exams during the semester (5x20 marks). Credits will not be awarded if the student obtains less than 50% of marks even after repeated assignments.					
Learning outcomes: After completing the course, the student will be able to independently solve computational problems at a level slightly higher than the level of a secondary school graduate in physics.					
Class syllabus: The exercise is a support for the subject Mechanics, the syllabus is in accordance with the syllabus of the subject Mechanics.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 69					
A	B	C	D	E	FX
91,3	2,9	1,45	2,9	0,0	1,45
Lecturers: PaedDr. Peter Horváth, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-336/15		Course title: Constitution of Texts and Tasks for Education in Physics			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 3					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. RNDr. Peter Demkanin, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-137/15		Course title: Digital Technologies (1)			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 1.					
Educational level: I., II.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 164					
A	B	C	D	E	FX
70,73	14,02	7,32	2,44	0,61	4,88
Lecturers: Mgr. Mária Čujdíková, PhD., doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-138/15		Course title: Digital Technologies (2)			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 2.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UXX-137/15 - Digital Technologies (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 136					
A	B	C	D	E	FX
69,85	17,65	7,35	0,0	2,21	2,94
Lecturers: Mgr. Mária Čujdíková, PhD., doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-236/15		Course title: Digital Technologies (3)			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UXX-137/15 - Digital Technologies (1)					
Course requirements: Intermediate assessment: assignments (must get min. 50% points), essay (required, 25%) Indicative evaluation scale: A 92%, B 84%, C 76%, D 68%, E 60%					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 115					
A	B	C	D	E	FX
73,04	13,04	5,22	3,48	0,87	4,35
Lecturers: PaedDr. Roman Hrušecký, PhD., PaedDr. Andrea Hrušecká, PhD.					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI+KAG/1-UXX-237/15		Course title: Digital Technologies (4)			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 5.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UXX-137/15 - Digital Technologies (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 86					
A	B	C	D	E	FX
76,74	13,95	5,81	2,33	1,16	0,0
Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD., RNDr. Martina Bátorová, PhD., PaedDr. Lukáš Bartošovič, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-341/15		Course title: Digital Technologies (5)			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 6.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UXX-137/15 - Digital Technologies (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 44					
A	B	C	D	E	FX
65,91	11,36	11,36	6,82	2,27	2,27
Lecturers: RNDr. Monika Dillingerová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-342/15		Course title: Digital Technologies for Learners with Specific Needs			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 4.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 62					
A	B	C	D	E	FX
79,03	9,68	3,23	1,61	0,0	6,45
Lecturers: doc. RNDr. Ľudmila Jašková, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KTF+KDMFI/1- UFY-141/15		Course title: Electromagnetism			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 3 / 2 per level/semester: 39 / 26 Form of the course: on-site learning					
Number of credits: 6					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: written tests, homework Exam: oral, written Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Credits will be awarded if the student obtains at least 50% marks.					
Learning outcomes: Students have knowledge of electricity and magnetism at the level of the core course of university physics. They will master the basic calculation methods and procedures for solving physics problems in electromagnetism. They will understand the boundaries between secondary school physics and university physics in the field of electricity and magnetism in terms of working with high school youth with an increased interest in physics.					
Class syllabus: Electric charge. Coulomb's law. Electric field. Gauss's law. Electric potential. Capacity. Electric current and resistance. Circuits. Magnetic field. Magnetic field of electric current. Electromagnetic induction. Magnetic field in matter. Maxwell's equations. Electromagnetic oscillations. Alternating currents. Electromagnetic waves.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 69					
A	B	C	D	E	FX
23,19	10,14	17,39	17,39	26,09	5,8
Lecturers: RNDr. Eduard Masár, PhD., doc. RNDr. Peter Demkanin, PhD.					

Last change: 18.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-233/13		Course title: English Conversation Course (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3., 5.					
Educational level: I., II.					
Prerequisites:					
Course requirements: tests, presentations, essays Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebezhneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Continual improvement of all language skills focused on communication/speaking, listening comprehension and writing. The emphasis is on discourse, lexicology and morphology, word-bank broadening of communicational English as well as English for specific purposes appropriate for university students. This course is a follow up of the previously taught ESP course.					
Class syllabus: This course's focus is to broaden spoken/communicational English for students with B2/C1 level of English knowledge.					
Recommended literature: Appropriate study material is supplied based on the participants' level of English by the lecturer. (Sources- The Guardian, The Herald Morning Sun. The Nine News, The West Australian, BBC News and podcasts, CNN podcasts).					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 215					
A	B	C	D	E	FX
67,44	13,02	6,51	1,86	1,4	9,77
Lecturers: Mgr. Aneta Barnes					

Last change: 21.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-234/13		Course title: English Conversation Course (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 4., 6.					
Educational level: I., II.					
Prerequisites:					
Course requirements: tests, oral presentations, essays Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebezhneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Continual improvement of all language skills focused on communication/speaking, listening comprehension and writing. The emphasis is on discourse, lexicology and morphology, word-bank broadening of communicational/spoken English as well as English for specific purpose appropriate for university students. This course is a follow up of the Conversational English course 1.					
Class syllabus: This course's focus is to broaden spoken/communicational English for students with B2/C1 level of English knowledge(Upper-Intermediate/Lower Advanced).					
Recommended literature: Appropriate study material is supplied based on the participants'level of English by the lecturer. (Sources- The Guardian, The Herald Morning Sun. The Nine News, The West Australian, BBC News and podcasts, CNN podcasts).					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 146					
A	B	C	D	E	FX
77,4	12,33	3,42	1,37	0,0	5,48
Lecturers: Mgr. Aneta Barnes					

Last change: 21.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJP/1-MXX-131/00	Course title: English Language (1)
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 1.	
Educational level: I.	
Prerequisites:	
Course requirements: Grades: A 93%, B 85%, C 77%, D 70%, E 65% Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebezhneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0	
Learning outcomes: The objective of the subject is to provide the students with experience and knowledge of technical English and thus make them ready to use English sources of information for later study and professional career.	
Class syllabus: On entering the first semester, students' knowledge of English is tested and they are divided into groups according to the results of the placement test. In the groups of pre-intermediate and intermediate students, fundamentals of technical English are taught. Advanced students take classes of technical English for their field of study: English for mathematics, for physics, for computer science, English for management and economic and financial mathematics.	
Recommended literature: Anglický jazyk pre študentov FMFI UK : Kurz pre mierne pokročilých / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Aplikovaná matematika / Alexandra Maďarová, Ľubomíra Kožehubová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Matematika / kolektív autorov KJP. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Fyzika / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Informatika / Elena Klátiková. The textbook has not been published. It is at students' disposal in an electronic format.	

Languages necessary to complete the course: Slovak, English					
Notes:					
Past grade distribution Total number of evaluated students: 5840					
A	B	C	D	E	FX
30,6	23,8	18,29	12,47	7,45	7,4
Lecturers: Mgr. Eva Foltánová, Mgr. Ing. Jana Kočvarová, Mgr. Ľubomíra Kožehubová, Mgr. Alexandra Maďarová, PhDr. Alena Zemanová, Mgr. Aneta Barnes, Mgr. Simona Tomášková, PhD.					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-132/00		Course title: English Language (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements: Grades: A 93%, B 85%, C 77%, D 70%, E 65% Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebezhneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: The objective of the subject is to provide the students with experience and knowledge of technical English and thus make them ready to use English sources of information for later study and professional career.					
Class syllabus: This is a continuation of the course English (1) designed for pre-intermediate students. Fundamental vocabulary is presented through selected topics in mathematics, physics and informatics. The lessons also contain revision of elementary grammar. Generally, it is a necessary preliminary to advanced programs.					
Recommended literature: Anglický jazyk pre študentov FMFI UK : Kurz pre mierne pokročilých / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format.					
Languages necessary to complete the course: Slovak, English					
Notes:					
Past grade distribution Total number of evaluated students: 1582					
A	B	C	D	E	FX
22,06	20,54	24,27	15,36	10,81	6,95

Lecturers: PhDr. Alena Zemanová, Mgr. Ing. Jana Kočvarová, Mgr. Alexandra Maďarová, Mgr. Lubomíra Kožehubová, Mgr. Eva Foltánová, Mgr. Aneta Barnes, Mgr. Simona Tomášková, PhD.

Last change: 20.06.2022

Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJP/1-MXX-231/00	Course title: English Language (3)
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 3.	
Educational level: I.	
Prerequisites:	
Course requirements: Grades: A 93%, B 85%, C 77%, D 70%, E 65% Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebežneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0	
Learning outcomes: The objective of the classes is to provide the students with knowledge of technical English in their field of study and experience with technical English sources sufficient to make the able to use technical language for their later study and professional purposes.	
Class syllabus: The subject continues the program of English (2). Students take classes of special English for their field of study: English for mathematics, English for physics, English for computer science, English for management and economic and financial mathematics. The subject requires advanced knowledge of general English.	
Recommended literature: Anglický jazyk pre študentov FMFI UK : Kurz pre mierne pokročilých / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Aplikovaná matematika / Alexandra Maďarová, Ľubomíra Kožehubová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Matematika / kolektív autorov KJP. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Fyzika / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Informatika / Elena Klátiková. The textbook has not been published. It is at students' disposal in an electronic format.	
Languages necessary to complete the course:	

Slovak, English					
Notes:					
Past grade distribution					
Total number of evaluated students: 1326					
A	B	C	D	E	FX
16,06	19,53	23,23	18,1	17,5	5,58
Lecturers: PhDr. Alena Zemanová, Mgr. Ing. Jana Kočvarová, Mgr. Alexandra Maďarová, Mgr. Lubomíra Kožehubová, Mgr. Eva Foltánová, Mgr. Aneta Barnes, Mgr. Simona Tomášková, PhD.					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJP/1-MXX-232/10	Course title: English Language (4)
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 4.	
Educational level: I.	
Prerequisites:	
Course requirements: Examination: an examination consisting of a written and an oral part. Grades: A 93%, B 85%, C 77%, D 70%, E 65% Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/skuska-z-predmetu-anglicky-jazyk-4/ Scale of assessment (preliminary/final): 0/100	
Learning outcomes: After completing the course, students will be able to work independently with professional literature in English	
Class syllabus: Students take classes of special English for their field of study: English for mathematics, English for physics, English for computer science, English for management and economic and financial mathematics.	
Recommended literature: Anglický jazyk pre študentov FMFI UK : Kurz pre mierne pokročilých / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Aplikovaná matematika / Alexandra Maďarová, Ľubomíra Kožehubová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Matematika / kolektív autorov KJP. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Fyzika / Alena Zemanová. The textbook has not been published. It is at students' disposal in an electronic format. Anglický jazyk pre študentov FMFI UK : Informatika / Elena Klátiková. The textbook has not been published. It is at students' disposal in an electronic format.	
Languages necessary to complete the course: Slovak, English	

Notes:					
Past grade distribution					
Total number of evaluated students: 3345					
A	B	C	D	E	FX
27,23	28,4	21,29	11,21	5,77	6,1
Lecturers: Mgr. Ing. Jana Kočvarová, Mgr. Alexandra Maďarová, PhDr. Alena Zemanová, Mgr. Lubomíra Kožehubová, Mgr. Eva Foltánová, Mgr. Aneta Barnes, Mgr. Simona Tomášková, PhD.					
Last change: 17.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-351/15		Course title: Experimental Methods in Physics			
Educational activities: Type of activities: laboratory practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 36					
A	B	C	D	E	FX
94,44	2,78	0,0	0,0	0,0	2,78
Lecturers: PaedDr. Peter Horváth, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KJP/1-MXX-141/00		Course title: French Language (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: French language is taught at two levels: beginner and intermediate. Students opt for one of them depending on whether they wish to obtain the fundamentals of the language or wish to maintain and/or improve previous knowledge of French.					
Recommended literature: Capelle Guy, Menand Robert: Le Nouveau taxi 1, Hachette FLE Paris, France 2009, ISBN 978-2-01-155548 - 9					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 435					
A	B	C	D	E	FX
45,75	20,0	18,85	8,74	2,3	4,37
Lecturers: Mgr. Ľubomíra Kožehubová					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KJP/1-MXX-142/00		Course title: French Language (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: The subject continues the program of French language (1) and provides courses of essential and intermediate French language.					
Recommended literature: Capelle Guy, Menand Robert: Le Nouveau taxi 1, Hachette FLE Paris, France 2009, ISBN 978-2-01-155548 - 9					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 265					
A	B	C	D	E	FX
38,87	25,28	19,62	10,19	2,64	3,4
Lecturers: Mgr. Ľubomíra Kožehubová					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KJP/1-MXX-241/00		Course title: French Language (3)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: The subject provides a course of intermediate French language, covering not only general, but also technical language.					
Recommended literature: Capelle Guy, Menand Robert: Le Nouveau taxi 1, Hachette FLE Paris, France 2009, ISBN 978-2-01-155548 - 9					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 104					
A	B	C	D	E	FX
39,42	27,88	21,15	6,73	0,96	3,85
Lecturers: Mgr. Ľubomíra Kožehubová					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-242/00		Course title: French Language (4)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: The subject provides a course of intermediate French covering not only general, but also technical French language.					
Recommended literature: Menand Robert: Le Nouveau taxi 2, Hachette FLE, Paris, France 2009, ISBN 978-2-01-155551 - 9					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 74					
A	B	C	D	E	FX
41,89	32,43	17,57	2,7	1,35	4,05
Lecturers: Mgr. Ľubomíra Kožehubová					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-151/00		Course title: German Language (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: To master the fundamentals of the common language and basic technical terms of particular fields of study (depending on the student's level of German proficiency)					
Class syllabus: German language is taught at three levels: beginner, intermediate and advanced. Students opt for one of them depending on whether they need to learn the fundamentals or maintain and/or improve their previous knowledge. This course's focus is to master the fundamentals of the common language and basic technical terms of particular fields of study (depending on the student's level of German proficiency)					
Recommended literature: Appropriate study material is supplied by teacher based on the participants'level of German proficiency.					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 734					
A	B	C	D	E	FX
36,1	27,25	19,62	8,99	2,72	5,31
Lecturers: Mgr. Alexandra Maďarová, Mgr. Simona Tomášková, PhD.					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-152/00		Course title: German Language (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: To master the fundamentals of the common language and basic technical terms of particular fields of study (depending on the student's level of German proficiency)					
Class syllabus: German language is taught at two levels: beginner and intermediate. Students opt for one of them depending on whether they wish to obtain the fundamentals of the language or wish to maintain and/or improve previous knowledge of German. This course's focus is to to master the fundamentals of the common language and basic technical terms of particular fields of study (depending on the student's level of German proficiency)					
Recommended literature: Appropriate study material is supplied by teacher based on the participants'level of German proficiency					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 480					
A	B	C	D	E	FX
36,04	20,21	20,83	13,13	3,33	6,46
Lecturers: Mgr. Alexandra Maďarová, Mgr. Simona Tomášková, PhD.					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-251/00		Course title: German Language (3)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Master the basics of general language and basic professional terminology of individual fields of study (depending on the advanced level of students)					
Class syllabus: The course is a follow-up to the German language (1,2). The subject provides a course of intermediate or advanced German language. This course's focus is to deepen the knowledge of the common language and basic technical terms of particular fields of study (depending on the student's level of German proficiency).					
Recommended literature: Appropriate study material is supplied by teacher based on the participants' level of German proficiency.					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 165					
A	B	C	D	E	FX
41,21	25,45	20,61	6,67	2,42	3,64
Lecturers: Mgr. Alexandra Maďarová, Mgr. Simona Tomášková, PhD.					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-252/00		Course title: German Language (4)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Master the basics of general language and basic professional terminology of individual fields of study (depending on the advanced level of students)					
Class syllabus: The course is a follow-up to the German language (1-3). It provides a course of intermediate and advanced German language. This course's focus is to deepen the knowledge of the common language and basic technical terms of particular fields of study (depending on the student's level of German proficiency).					
Recommended literature: Appropriate study material is supplied by teacher based on the participants' level of German proficiency.					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 90					
A	B	C	D	E	FX
42,22	24,44	12,22	12,22	3,33	5,56
Lecturers: Mgr. Alexandra Maďarová, Mgr. Simona Tomášková, PhD.					
Last change: 21.06.2022					
Approved by:					

STATE EXAM DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-951/15	Course title: Informatics for Teachers
Number of credits: 2	
Educational level: I.	
Learning outcomes: State examination for the completion of a bachelor's degree in teacher education in combination with computer science.	
Class syllabus: Programming in a higher level programming language. PPE and its principles. Basic mathematical concepts and principles needed to solve problems in the practice of computer science teachers. Mathematical structures (graphs, formal languages and automata, fractals). Creation of an educational program for the subject of informatics at primary and secondary school. Data structures (list, stack, row, trees, lexicographic trees, graphs). Parallel processes. Solving tasks in school informatics at primary and secondary school in a programming language that is suitable for a given level of education.	
State exam syllabus: State examination for the completion of a bachelor's degree in teacher education in combination with informaticsInformatics <ol style="list-style-type: none"> 1. Data types in the Scratch environment. 2. New (custom) blocks in the Scratch environment. 3. Using text files in the Scratch environment. 4. Multiple characters in a Scratch environment. 5. Keyboard and mouse events in the Scratch environment. 6. Advanced Scratch environment options, custom variables. 7. Working with the field. Associative fields. (Python) 8. Characteristics of object-oriented programming. Classes. Inheritance. (Python) 9. Characteristics and use of files. Text files and ways to work with them. (Python) 10. Working with graphic information. Working with the tkinter module. (Python) 11. Turtle graphics. Recursion. Working with the turtle module. (Python) 12. Dynamic data structures. 13. Representation of sets. 14. Finding information in tables 15. Sorting algorithms. Didactics of informatics <ol style="list-style-type: none"> 1. Teaching informatics at primary and secondary schools. Basic school documents. General and partial educational goals. Facts, concepts, generalizations. 2. Taxonomy of educational goals. Significance of taxonomies, levels of cognitive taxonomy (Bloom). 3. Preparation of a lesson for work with a spreadsheet editor at elementary school. 4. Preparation of a lesson on security in high school. 	

5. Children's programming languages. Features of a programming language that is suitable for teaching programming to students at the 2nd level of elementary school. Comparison Karel, Scratch. 6. Digital technologies in teaching. 7. E-learning. Advantages and disadvantages of various forms of e-learning. Risks and pitfalls of e-learning. 8. Use of software in education. 9. Organizational forms. 10. Evaluation. Forms and functions of evaluation. 11. Didactic principles.
Recommended literature: Literature recommended by individual subjects during the whole bachelor study.
Languages necessary to complete the course: Slovak
Last change: 31.05.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KAI/1-MXX-491/15		Course title: Integrated Education of People with Disabilities			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 1., 3.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 55					
A	B	C	D	E	FX
78,18	18,18	1,82	0,0	0,0	1,82
Lecturers: PaedDr. Elena Mendelová, CSc.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-246/10		Course title: Interactive Programming and Visual Modelling			
Educational activities: Type of activities: course Number of hours: per week: 4 per level/semester: 52 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-241/15 - Programming (3)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 80					
A	B	C	D	E	FX
36,25	15,0	11,25	13,75	15,0	8,75
Lecturers: prof. RNDr. Ivan Kalaš, PhD., PaedDr. Andrea Hrušecká, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-310/15		Course title: Introduction to Didactics of Physics			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 5					
Recommended semester: 5.					
Educational level: I.					
Prerequisites: FMFI.KDMFI/1-UFY-232/22 - School Physics (1)					
Course requirements: Continuous assessment: presentation of the results of individual work (2x25 marks) Exam: written (20 marks), oral (30 marks) Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: The graduate will know the relationship between pedagogy, psychology and physics didactics. Graduates - future physics teachers will understand the basic goals, methods and means of physics education.					
Class syllabus: Didactics of physics as applied science. Current goals and problems of physical education. Teaching strategies. Cognition methods. Models and modelling in physics teaching. The empirical and theoretical approach to knowledge mediation. Means of teaching physics. Experiment. Mathematical procedures. Coordinate graph function. Solving physics problems. Microcomputer supported and multimedia lab. Possibilities of influencing students' motivation by teachers. Preparation for teaching. Evaluation of students' knowledge.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 41					
A	B	C	D	E	FX
70,73	9,76	12,2	0,0	4,88	2,44
Lecturers: doc. PaedDr. Klára Velmovská, PhD., PaedDr. Simona Gorčáková					

Last change: 18.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UFY-220/15	Course title: Introduction to School Experiments
Educational activities: Type of activities: lecture / laboratory practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 4.	
Educational level: D, I.	
Prerequisites:	
Course requirements: Continuous assessment: written test (10 marks), individual work projects (2x20 marks), practical test (10 marks) Exam: oral (40 marks) Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Credits will be awarded if the student obtains at least 50% marks.	
Learning outcomes: Graduates have the knowledge, skills and abilities necessary for the methodology and technique of performing several types of school physical measurements and experiments in the physics curriculum of lower secondary and high schools.	
Class syllabus: Phases of a school experiment, types of school experiments, measurements and observations, possibilities of a computer-aided science laboratory, measurement with sensors, basics of video measurement, basics of preparation of interactive animations. Preparation of instruction for a student for an experiment planned by a teacher, preparation and assignment of a student planning experiment. Empirical cognition in school physics, basics of measuring results, student work in empirical cognition.	
Recommended literature: Evidence based teaching : A practical approach / Geoff Petty. Cheltenham : Nelson Thornes, 2006 Počítačom podporované prírodovedné laboratórium / Peter Demkanin a kol.. Bratislava : Knižničné a edičné centrum, 2006 Demkanin, P, Didaktika fyziky, UK 2018 Klentschy, Michael P.: Scaffolding Science Inquiry Through Lesson Design Own electronic texts of the subject published through the subject's website.	
Languages necessary to complete the course: Slovak and English.	

Notes:					
Past grade distribution					
Total number of evaluated students: 66					
A	B	C	D	E	FX
60,61	21,21	13,64	0,0	1,52	3,03
Lecturers: doc. RNDr. Peter Demkanin, PhD., doc. PaedDr. Viera Haverlíková, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-355/10		Course title: Introduction to Web Documents Formation			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 5.					
Educational level: I.					
Prerequisites: FMFI.KDMFI/1-UIN-241/15 - Programming (3)					
Antirequisites: FMFI.KDMFI/1-AIN-112/15					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 73					
A	B	C	D	E	FX
36,99	13,7	16,44	4,11	17,81	10,96
Lecturers: doc. RNDr. Ľudmila Jašková, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KAI/1-AIN-406/15		Course title: Language and Cognition			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 2., 4., 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 111					
A	B	C	D	E	FX
31,53	25,23	17,12	12,61	6,31	7,21
Lecturers: doc. PhDr. Ján Rybár, PhD.					
Last change: 12.01.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-345/00		Course title: Linux			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 5.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus: Introduction - Linux versus Windows, brief history, GNU GPL licence, OpenSource, base hierarchy of Linux (kernel, applications, drivers, ...) Environment KDE, configurations - language, appearance, backgrounds, interesting applications, ... File system organisation, concepts users, groups, access rights. Working in a window and working in a command interpreter. Process management - what is process, process environment, process identification, process manipulation, environment variables, ... TCP/IP - basic functionality, IP address, gateway, DNS, ... X-server, X-client, philosophy, the variable DISPLAY, the command xhost Applications: Gimp, Mozilla, OpenOffice, Xfig, wget, ... Education applications: ktuberling, gcompris, ... Installation of applications - compiling, running, ... Linux like a server - tasks, requirements, properties, ...					
Recommended literature: On-line manual pages of Linux, KDE and Gnome. http://www.linux.org/ , http://edu.kde.org/ , http://schoolforge.net , http://www.linuxforkids.org/ http://www.infovek.sk					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 41					
A	B	C	D	E	FX
85,37	2,44	0,0	9,76	2,44	0,0

Lecturers: RNDr. Marek Nagy, PhD.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KDMFI/1-UFY-120/15		Course title: Mathematical Methods in Physics (1)			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 1 per level/semester: 26 / 13 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: written exams, problem solving Exam: written Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Credits will be awarded if the student obtains min. 50% marks.					
Learning outcomes: Students know the basic mathematical concepts and methods used in the physics course. These can be used in solving basic physics course tasks.					
Class syllabus: Vector and basic vector operations. Scalar and vector product. Function and its properties. Derivation of a function. The course of the function. Differential. Taylor polynomial. Application of differential calculus. Indefinite integral. Integration methods. Definite integral. Applications of a definite integral. Improper integral. 1st and 2nd order linear differential equations. 1st order and 2nd order differential equations. Differential equations in physics.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 73					
A	B	C	D	E	FX
46,58	21,92	9,59	4,11	6,85	10,96
Lecturers: doc. PaedDr. Klára Velmovská, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-121/15		Course title: Mathematical Methods in Physics (2)			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: tests (3x20 marks), problem solving (4x10 marks) Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will be awarded if the student obtains min. 50% marks.					
Learning outcomes: Graduates master selected mathematical concepts and methods used in physics and know how to use them in solving core physics courses.					
Class syllabus: Real function of several variables. Points and sets in n-dimensional space. Limit functions of several variables. Continuity of a function of several variables. Partial derivatives of functions of several variables. Complete differential of a function of several variables. Taylor polynomial functions of several variables. Extremes of functions of several variables. Local extremes of functions of several variables. Bound local extremes. Global (absolute) extremes. Integral of functions of several variables. Calculation of a certain integral on an interval. Integral calculation on the elementary domain. Substitution method for integrals of several variables (polar, cylindrical and spherical coordinates). Geometric applications of integral of several variables. Applications of plural integrals in physics. Scalar and vector fields. Gradient, divergence, rotation. Curve integrals of the 1st and 2nd kind.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 61					
A	B	C	D	E	FX
59,02	16,39	9,84	9,84	0,0	4,92

Lecturers: doc. PaedDr. Klára Velmovská, PhD.
Last change: 18.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-343/15		Course title: Mathematical Methods of Theoretical Physics			
Educational activities: Type of activities: seminar Number of hours: per week: 1 per level/semester: 13 Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 38					
A	B	C	D	E	FX
60,53	26,32	5,26	5,26	0,0	2,63
Lecturers: PaedDr. Lukáš Bartošovič, PhD.					
Last change: 29.11.2017					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-161/15		Course title: Mathematics Classes for Teachers			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 29					
A	B	C	D	E	FX
41,38	24,14	24,14	3,45	3,45	3,45
Lecturers: PaedDr. Daniela Bezáková, PhD.					
Last change:					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI+KAI/1-UIN-101/15		Course title: Mathematics for Informatics Teachers (1)			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 1.					
Educational level: I.					
Prerequisites: FMFI.KDMFI/1-UIN-121/22 - Informatics (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 54					
A	B	C	D	E	FX
27,78	20,37	18,52	9,26	12,96	11,11
Lecturers: PaedDr. Daniela Bezáková, PhD.					
Last change: 30.11.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-102/15		Course title: Mathematics for Informatics Teachers (2)			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 2.					
Educational level: I.					
Prerequisites: FMFI.KDMFI+KAI/1-UIN-101/15 - Mathematics for Informatics Teachers (1)					
Course requirements: Continuous assessment: The student will receive 30% points for active work in exercises, 30% points for homework and 40% points for papers. Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 44					
A	B	C	D	E	FX
43,18	13,64	31,82	4,55	4,55	2,27
Lecturers: PaedDr. Daniela Bezáková, PhD.					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-201/15		Course title: Mathematics for Informatics Teachers (3)			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I.					
Prerequisites: FMFI.KDMFI/1-UIN-102/15 - Mathematics for Informatics Teachers (2)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 36					
A	B	C	D	E	FX
52,78	13,89	22,22	2,78	8,33	0,0
Lecturers: RNDr. Michal Winczer, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KDMFI/1-UFY-111/15		Course title: Mechanics			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 3 / 2 per level/semester: 39 / 26 Form of the course: on-site learning					
Number of credits: 6					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: papers. homeworks Exam: written Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: Students will understand the basic concepts and laws of mechanics and will be able to use them in solving problems.					
Class syllabus: Basic physical quantities. Gradual movement, movement in a circle. Newton's laws of dynamics, force, momentum. Inertial and non-inertial reference frames. Gravitational field. Work, kinetic and potential energy, moment of force, moment of momentum. Conservation laws in mechanics. Rigid body mechanics, center of gravity, moment of inertia, Steiner's theorem, rotational motion. Fluid mechanics. Oscillations - free, damped and forced, resonance.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 82					
A	B	C	D	E	FX
29,27	14,63	18,29	18,29	4,88	14,63
Lecturers: PaedDr. Peter Horváth, PhD., doc. RNDr. Peter Demkanin, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UFY-342/15	Course title: Molecular Physics and Thermodynamics
Educational activities: Type of activities: lecture Number of hours: per week: 3 per level/semester: 39 Form of the course: on-site learning	
Number of credits: 3	
Recommended semester: 6.	
Educational level: I.	
Prerequisites:	
Course requirements: Continuous assessment: tests (2x10 marks), presentation of individual project work (10 marks), homeworks (3x10 marks) Exam: written (40 marks) Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Credits will not be awarded if a student scores less than 50%.	
Learning outcomes: Graduates will have basic knowledge of molecular physics and thermodynamics - basic concepts, methods, laws and selected applications in this field. They will have an idea of the boundaries between graduation and university physics in this area in terms of working with high school youth with an increased interest in physics. They will have developed skills and knowledge to work with energy transformations and the law of conservation of energy within classical physics.	
Class syllabus: History of molecular discovery, Mol, Avogadro's constant, typical dimensions of the microworld. Phenomenology of gas processes, equation of state, Kelvin scale. Kinetic theory of gas pressure, the relationship between temperature, heat and energy. Macroscopic work of gas, heat as microscopic work, the first thermodynamic theorem. Mayer's relationship, Adiabatic story. Continuous random variables. Maxwell's velocity distribution. Boltzmann distribution and barometric formula. A synthesizing view of the law of conservation of energy in classical physics.	
Recommended literature:	
Languages necessary to complete the course: Slovak and English.	
Notes:	

Past grade distribution					
Total number of evaluated students: 38					
A	B	C	D	E	FX
71,05	23,68	2,63	0,0	0,0	2,63
Lecturers: PaedDr. Lukáš Bartošovič, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-346/15	Course title: Multimedia
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 5.	
Educational level: I.	
Prerequisites:	
Course requirements: Continuous assessment: Students can get 100% points for completing assignments on individual topics. Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 100/0	
Learning outcomes: Students are able to create and edit a variety of multimedia content. They can use digital tools to process graphics, audio and video. They understand the principles of digital media processing. They are able to integrate outdoor activities into the classroom using mobile applications and design assignments for this type of learning activity. They are able to use virtual and augmented reality in education.	
Class syllabus: - creation of graphic design using online tools - photo editing - work with 3D graphics - working with vector graphics in a children's programming environment - collaborative creation and verification of outdoor educational activities using a mobile application - Collaborative video creation and processing using more complex editing - work with sound in video editor - getting acquainted with the possibilities of using virtual and augmented reality in education	
Recommended literature:	
Languages necessary to complete the course: Slovak	
Notes:	

Past grade distribution					
Total number of evaluated students: 8					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Mária Čujdíková, PhD.					
Last change: 22.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KAI/1-UXX-231/18		Course title: Pedagogic Communication			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 4.					
Educational level: D, I., II.					
Prerequisites:					
Antirequisites: FMFI-Prif.KDPP/1-UXX-231/10					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 213					
A	B	C	D	E	FX
48,83	19,72	13,62	9,86	2,82	5,16
Lecturers: doc. RNDr. Martin Takáč, PhD.					
Last change: 07.05.2018					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-110/00		Course title: Physical Education and Sport (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 0					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: Grades: A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Orientation in the history of the selected sports discipline, mastering the basic principles of compensation of mostly mental burdens of the individual. Creating a positive, lasting relationship to physical education and sports in the sense of calocagation. Mastering the demands for the development of motor abilities, skills, proper technique of performing individual movements in individual sports, individual game activities in collective sports games.					
Class syllabus: Introduction to the basic history of the selected sport, with the basic principles of compensation of one-sided psychological burden of the individual's body. Development of basic motor skills with a stop to all kinds of endurance, coordination, increasing the level of joint mobility. Training of individual game activities in collective sports games. In individual sports disciplines, practice of basic techniques of individual elements.					
Recommended literature:					
Languages necessary to complete the course: Slovak, English					
Notes:					
Past grade distribution Total number of evaluated students: 5698					
A	B	C	D	E	FX
95,35	1,7	0,12	0,0	0,07	2,76
Lecturers: Mgr. Ladislav Mókus, PaedDr. Dana Mašlejová, Mgr. Jana Leginusová, Mgr. Tomáš Kuchár, PhD., PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, PhD., Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek, Mgr. Tomáš Lovecký					

Last change: 16.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-120/00		Course title: Physical Education and Sport (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 0					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus: Practising offensive and defensive combinations and game at modified rules in collective games such as basketball, volleyball, soccer, floorball. Command of elements of higher difficulty in terms of the level of the activity abilities (crawl stroke, breast stroke, butterfly stroke, trampoline jump, aerobic compositions with steps, fitball, elastic gums, paddling on the running water.					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 4814					
A	B	C	D	E	FX
96,72	1,62	0,1	0,06	0,04	1,45
Lecturers: Mgr. Tomáš Kuchár, PhD., PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Jana Leginusová, PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, PhD., Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek, Mgr. Tomáš Lovecký					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-210/00		Course title: Physical Education and Sport (3)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: To practise game combinations, tactical - mechanical elements in basketball, volleyball, soccer, floorball, ice hockey, badminton, competition rules in the sports specialization.					
Recommended literature:					
Languages necessary to complete the course: Slovak, English					
Notes:					
Past grade distribution Total number of evaluated students: 2799					
A	B	C	D	E	FX
98,54	0,5	0,11	0,04	0,0	0,82
Lecturers: Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, PhD., Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek, Mgr. Tomáš Lovecký					
Last change: 16.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KTV/1-MXX-220/00		Course title: Physical Education and Sport (4)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 4.					
Educational level: I.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: Preparation for sport championships of the Faculty in the chosen sport at modified rules. The selection of talented students into the teams of the University and Faculty leagues and other faculty sport events.					
Recommended literature:					
Languages necessary to complete the course: Slovak, English					
Notes:					
Past grade distribution Total number of evaluated students: 2518					
A	B	C	D	E	FX
98,53	0,16	0,08	0,04	0,0	1,19
Lecturers: Mgr. Tomáš Kuchár, PhD., Mgr. Ladislav Mókus, Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, PhD., Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek, Mgr. Tomáš Lovecký					
Last change: 15.03.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-310/00		Course title: Physical Education and Sport (5)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 5.					
Educational level: I.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes:					
Class syllabus: Preparation and participation of individuals and teams in the system of university sport competitions and sport events.					
Recommended literature:					
Languages necessary to complete the course: Slovak, English					
Notes:					
Past grade distribution Total number of evaluated students: 1864					
A	B	C	D	E	FX
98,98	0,38	0,11	0,0	0,0	0,54
Lecturers: Mgr. Tomáš Kuchár, PhD., Mgr. Ladislav Mókus, Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, PhD., Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek, Mgr. Tomáš Lovecký					
Last change: 15.03.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-320/00		Course title: Physical Education and Sport (6)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus: Using the communication in the physical education and sport and organizing the sport championships to achieve expressive motion of the sport and health in a valuable orientation the students.					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 1630					
A	B	C	D	E	FX
98,71	0,37	0,12	0,0	0,0	0,8
Lecturers: PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Jana Leginusová, Mgr. Tomáš Kuchár, PhD., PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, PhD., Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek, Mgr. Tomáš Lovecký					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-335/15		Course title: Physics Around Us			
Educational activities: Type of activities: lecture Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 5.					
Educational level: I.					
Prerequisites: FMFI.KDMFI+KEF/1-UFY-132/15 - School Physics (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 28					
A	B	C	D	E	FX
96,43	0,0	0,0	0,0	3,57	0,0
Lecturers: PaedDr. Peter Horváth, PhD.					
Last change: 02.06.2015					
Approved by:					

STATE EXAM DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UFY-951/15	Course title: Physics and Didactics of Physics
Number of credits: 2	
Educational level: I.	
Course requirements: The final examination is realized by the student's discussion with the members of the commission on two topics from the content of the examination. Assessed: illustration of concepts on suitable examples / contexts / situations 0-3 points; correctness of physics terminology 0-3 points; intelligibility of discussion 0-3 points; responding to commission questions regarding selected topics 0-3 points; responding to other commission questions / broader context 0-3 points. Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% The exam is successfully passed if the student obtains at least 50% of points.	
Learning outcomes: Passing the exam represents fulfilling the profile of the graduate.	
Class syllabus: Physics: Movement in two dimensions. Even movement in a circle. Movements in a homogeneous gravitational field, oblique litter. Newton's laws of motion. Relationship between free fall and motion of bodies in the radial field of the Earth. Mechanical work, kinetic energy, work of gravitational force (in homogeneous gravitational field), work of elastic force, power, potential gravitational energy, potential energy of elasticity, law of conservation of mechanical energy, conservative and non-conservative forces, work of friction force. Fluid mechanics, pressure, compressive force, pressure induced by fluid gravity, Archimedes' law, Pascal's law, continuity equation, Bernoulli's equation. Elastic and inelastic collisions, momentum, impulse of force, law of conservation of system momentum, elastic and inelastic direct collisions, oblique collisions, explosion (in two parts). Moment of force with respect to the axis of rotation, momentum of the moment for rotation around a fixed axis (second impulse theorem), rolling, rotation of bodies around a fixed axis, rolling on an inclined plane. Momentum, momentum of a particle system, momentum of a rigid body with respect to a fixed axis, the law of conservation of momentum. Coulomb's law. Electric field. Scalar and vector fields. Electric fields, lines of force. Point charge field. Superposition of electric fields. Electric dipole field. Application of Gauss' s law. Electric potential. Electric potential energy. Potential, voltage, equipotential surfaces. Electron volt. Work performed by an external force when moving the charge in the el. field. Point charge potential. Potential energy and potential of a system of point charges. Faraday's cage. Capacity. Capacitor and capacity. Capacitor charging process. Circuits with unidirectional el. current. Electromotive voltage. Internal battery resistance, terminal voltage. Battery power, power dissipation, battery charging and discharging. Loop rule, node rule, current calculation in resistor circuits by voltage method. Serial and parallel connection of resistors. Connection of ammeters and voltmeters, ideal ammeter and ideal voltmeter.	

Magnetic field. The essence of magnetism and the magnetic field, the absence of a magnetic monopole. Magnetic induction, Lorentz force. Induction lines. Bar magnet. The trajectory of a charged particle in mag. field. Earth's magnetic field, aurora borealis. Cyclotron and synchrotron. Charged particle separator according to velocities, mass spectrometer. Hall map. Force acting on a current conductor in a magnetic field (Ampere's force).

Electromagnetic induction. Induced current, induced electromotive voltage. Experiments demonstrating electromagnetic induction. Faraday's law of electromagnetic induction. Lenz's law. Induction energy transfer. Alternator. Faraday's law of electromagnetic induction in integral form. Eddy currents.

Electromagnetic oscillations and alternating current circuits. LC oscillations, energy transfer, energy conservation, mechanical analogy. Damped oscillations in a serial RLC circuit. Circular frequency of undamped and damped oscillations. Power in RLC circuit with AC source. Effective voltage, power factor, resonant frequency of the source.

Mechanical vibration, kinematics - instantaneous deflection, speed and acceleration of oscillating motion, equation of motion for harmonic motion, energy of harmonic oscillator. Torsional oscillations, mathematical and physical pendulum, damped and forced oscillations, resonance.

Waves, superposition principle, wave speed propagating on a rope, reflection and transmission of a wave at an interface, standing waves, sound, resonance in tubes, Doppler effect, sound shock waves. Doppler phenomenon in connection with sound and in connection with light. Body velocity measurement. Infrared shift when exploring distant stars.

Electromagnetic waves, light, spectral regions of light and electromagnetic waves, Interference in space, basic assumptions of two-beam interference, Young's two-slit experiment, intensity profile in interference, interference on thin films. Sound wave interference. Bending (diffraction) of light at the aperture, Rayleigh criterion, diffraction grating.

Rutherford scattering, Bohr model of the atom, electron transitions between energy levels, emission and absorption spectra of gases. Franck-Hertz experiment. X-rays.

Interaction and radiation detection. Photoelectric effect, Compton scattering, pair formation and annihilation.

The nucleus of an atom and its properties. Weight loss and binding energy. nuclear fusion and fission. Isotopes.

Radioactive transformation. Alpha, beta and gamma radiation. Law of radioactive transformation, activity. Absorption characteristics of alpha, beta and gamma rays.

Ideas about the microworld. Basic substance characteristics (molar quantities). Equation of state of an ideal gas. Heat and temperature, Kelvin temperature scale. Thermal processes with an ideal gas - state changes and energy aspects. Ideal gas pressure, barometric equation. Kinetic theory of substance structure. Maxwell-Boltzmann distribution. The law of conservation of energy in terms of thermodynamics.

Didactics:

Science literacy, scientific work skills. Examples of the development of scientific skills in teaching physics.

Objectives and content of science and physical education.

Bloom's taxonomy of goals and its application in the creation of physical problems.

Basic pedagogical documents and teaching aids, their structure and function.

The model of ontogenesis of thinking according to J. Piaget and its importance for the creation of the physics curriculum.

Empirical and theoretical cognition in school physics. Selected methods of access to methods and ways of cognition.

Graphic method of communication between two quantities. Examples of the use of graphs in the introduction of some physical concepts.

<p>Classification of physical tasks. The importance of the physical role in the cognitive process.</p> <p>Complex physical problems, function of complex tasks in introducing ideas about natural phenomena.</p> <p>Complete scheme of the school physics experiment planned by the teacher - the teacher's activity.</p> <p>Pupil's activity in various phases of planning, implementation and data processing of a school physics experiment. Pupil-planned experiment.</p> <p>Classification of school physics experiments (cognitive functions, organization, means used, data obtained).</p> <p>Assessment and classification of students in physics teaching. Assessment of the degree of development of students' scientific abilities.</p> <p>Key experiments on the topic of "fluid statics".</p> <p>Key experiments on the topic of "calorimetry".</p> <p>Key experiments on the topic of "molecular physics".</p> <p>Key experiments on the topic of "movement and force".</p>
<p>State exam syllabus:</p>
<p>Recommended literature:</p> <p>Recommended literature on the subjects of the study program.</p>
<p>Languages necessary to complete the course:</p> <p>Slovak and English.</p>
<p>Last change: 10.03.2022</p>
<p>Approved by:</p>

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-360/15		Course title: Physics as the Component of Science Education			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 5.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: seminar work (30 marks), defence of seminar work (40 marks), discussion of the work of peers (30 marks) Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: They will know the ways of integration of science subjects into didactic programs and the position of physics in them, common methods, procedures, strategies and concepts in science subjects.					
Class syllabus: New approaches to the transformation of natural sciences into didactic models of education. Physics as a basis of conceptual structure and methods of work in the didactic model of science education. Graphical method of imaging as a way of mathematical modeling of phenomena. Application of historical aspects in the content of education. Investigation of the properties of liquids and gases - a starting point for mastering the methods of measuring weight, length, volume. Procedures and strategies for experimental activities, as well as processing of measured data. Application of selected methods of work in physics to the study of living organisms.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 46					
A	B	C	D	E	FX
78,26	10,87	6,52	0,0	0,0	4,35
Lecturers: doc. PaedDr. Viera Haverlíková, PhD.					

Last change: 18.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-170/20		Course title: Physics by Experience			
Educational activities: Type of activities: training session Number of hours: per week: per level/semester: 5d Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1., 3., 5.					
Educational level: I.					
Prerequisites:					
Course requirements: During the camp, students will solve short practical tasks (3x10 marks) and one project task (40 marks). Reflection of the camp activities is for max. 30 marks. Rating A = (90, 100]%, B = (80, 90]%, C = (70, 80]%, D: (60, 70]%, E: (50, 60]%). Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: By completing the course, the student will gain basic knowledge about the specifics of teaching physics in the outdoor environment. At a level appropriate to the future beginning physics teacher, will know the main characteristics of non-formal education and will be able to use selected methods of non-formal education in teaching physics at secondary schools.					
Class syllabus: The outdoor environment as a part of the environment for elementary school students' learning. Formal, non - formal and informal learning. Edutainment. Situation analysis - condition analysis, environment analysis and needs analysis. Objectives of non-formal education - knowledge, skills, attitudes, relationships. Methods and techniques in non-formal education. Creative-discovery workshops. Educational games. Group dynamics.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 0					
A	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0
Lecturers: doc. PaedDr. Viera Haverlíková, PhD., doc. PaedDr. Klára Velmovská, PhD.					

Last change: 18.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-341/15		Course title: Principles of Educational Software (1)			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 5.					
Educational level: D, I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-246/10 - Interactive Programming and Visual Modelling					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 46					
A	B	C	D	E	FX
47,83	39,13	8,7	2,17	0,0	2,17
Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-343/15		Course title: Principles of Educational Software (2)			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-341/15 - Principles of Educational Software (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 14					
A	B	C	D	E	FX
71,43	28,57	0,0	0,0	0,0	0,0
Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-140/15		Course title: Programming (1)			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 6					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 63					
A	B	C	D	E	FX
31,75	15,87	15,87	6,35	11,11	19,05
Lecturers: doc. RNDr. Zuzana Kubincová, PhD., PaedDr. Andrea Hrušecká, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-141/15		Course title: Programming (2)			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 6					
Recommended semester: 2.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-140/15 - Programming (1)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 47					
A	B	C	D	E	FX
48,94	17,02	17,02	8,51	0,0	8,51
Lecturers: doc. RNDr. Zuzana Kubincová, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-241/15	Course title: Programming (3)
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning	
Number of credits: 4	
Recommended semester: 3.	
Educational level: I., II.	
Prerequisites: FMFI.KDMFI/1-UIN-141/15 - Programming (2) or FMFI.KDMFI/1-UIN-141/22 - Programming (2)	
Course requirements: Continuous assessment: assessment of homework (5%), short tests (40%), a project (10%) and one final test (15%) Examination: practical programming examination Indicative grading scale: A 88%, B 81%, C 74%, D 67%, E 60% Scale of assessment (preliminary/final): 70/30	
Learning outcomes: After completing the course, students will be able to use more complex data types and program constructs of the object-oriented programming language and basic algorithms for working with them, they will better understand the principles of object-oriented programming, they will be able to program the solution of more complex problems and analyze more complex programs.	
Class syllabus: - other data types and program constructs - recursion - polymorphism - working with images and animation - linked structures - algorithms on more complex structures	
Recommended literature: • the teacher's own electronic study materials published on the course website or in the Moodle system • Pecinovský, R.: Začínáme programovat v jazyku Python. Grada, 2020, S. 272 • Guniš, J., Šnajder, L.: Programovanie v Pythone 1. Univerzita Pavla Jozefa Šafárika v Košiciach, 2021, S. 170 • Kučera, P.: Programujeme v Pythone, e-kniha, 2017	
Languages necessary to complete the course: Slovak	

Notes:					
Past grade distribution Total number of evaluated students: 39					
A	B	C	D	E	FX
46,15	17,95	17,95	5,13	5,13	7,69
Lecturers: doc. RNDr. Zuzana Kubincová, PhD.					
Last change: 22.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-327/15	Course title: Programming Etudes (1)
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 3	
Recommended semester: 5.	
Educational level: I., II.	
Prerequisites: FMFI.KDMFI/1-UIN-246/10 - Interactive Programming and Visual Modelling	
Course requirements: Continuous assessment: elaboration of assignments at the seminar, homework, project Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50%	
Learning outcomes: The student: <ul style="list-style-type: none"> - can assess whether the programming environment is suitable for a given level of education - uses more advanced techniques of the programming environment for students at the 2nd level of elementary school - Designs and programs projects and small educational applications - when solving problems, he can choose the right programming technique and implement it - can decide whether the programming technique is suitable for the given level of education 	
Class syllabus: programming techniques: mouse click on an object on the stage <ul style="list-style-type: none"> - data structure list and its use in the programming environment - programming techniques: the use of data list structure in solving tasks - programming techniques: moving the object using the keys - programming techniques enabling animations in the programming environment - programming techniques leading to an object-oriented approach - more advanced programming techniques leading to parallelism - project specification and design - project implementation, error tuning - project demonstration, evaluation and project discussion 	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	

Past grade distribution					
Total number of evaluated students: 36					
A	B	C	D	E	FX
80,56	2,78	5,56	5,56	5,56	0,0
Lecturers: RNDr. Michal Winczer, PhD.					
Last change: 14.03.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-325/15		Course title: Programming Etudes (2)			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 6.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-241/15 - Programming (3) and FMFI.KDMFI/1-UIN-236/15 - Algorithms and Data Structures					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 32					
A	B	C	D	E	FX
81,25	3,13	3,13	9,38	0,0	3,13
Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD.					
Last change: 30.11.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-350/15		Course title: Programming in C#			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 5.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-241/15 - Programming (3)					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 27					
A	B	C	D	E	FX
81,48	3,7	3,7	3,7	0,0	7,41
Lecturers: doc. RNDr. Ľubomír Salanci, PhD., doc. RNDr. Ľudmila Jašková, PhD., Mgr. Mária Čujdíková, PhD.					
Last change: 05.11.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-351/17	Course title: Programming in JavaScript
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 6.	
Educational level: I., II.	
Prerequisites:	
Course requirements: The student can get 50% points for studying and applying the features of the JavaScript programming language. He can get another 50% of points for programming the assigned tasks during the seminars. Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 100/0	
Learning outcomes: The student: <ul style="list-style-type: none"> - knows the commands of JavaScript, a language that is suitable for creating applications that work in a web browser - Understands how to embed JavaScript code in an html page - recognizes and explains the function of individual elements that are part of the html code and whose actions are linked to JavaScript - is able to write and debug its problem solution in JavaScript language 	
Class syllabus: Course contents: Basic structures of JavaScript: variables, Boolean expressions JS and html collaboration JS and functions Design for repetition Branching in JS One-dimensional arrays, array rendering Two-dimensional arrays, Life game Mouse events - click Mouse events - dragging Special event customization and syntax for mobile devices Working with images in JS	
Recommended literature:	

Tomcsányiová, M .: JavaScript: from Introduction to Games, internal material of the Department of Didactics of the IFI, FMFI Comenius University in Bratislava, 2021
JavaScript website
own electronic texts published on the website, resp. in the Moodle environment

Languages necessary to complete the course:

Slovak

Notes:

Past grade distribution

Total number of evaluated students: 23

A	B	C	D	E	FX
65,22	8,7	8,7	4,35	4,35	8,7

Lecturers: doc. PaedDr. Monika Tomcsányiová, PhD.

Last change: 23.06.2022

Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-349/15		Course title: Programming of Application for WEB			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I., II.					
Prerequisites: FMFI.KDMFI/1-UIN-355/10 - Introduction to Web Documents Formation or FMFI.KDMFI/1-UIN-355/22 - Introduction to Web Documents Formation					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 19					
A	B	C	D	E	FX
36,84	5,26	21,05	26,32	5,26	5,26
Lecturers: PaedDr. Roman Hrušecký, PhD.					
Last change: 30.11.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-250/00	Course title: Propedeutics of Informatics Education (1)
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 3.	
Educational level: D, I., II.	
Prerequisites: FMFI.KDMFI/1-UXX-134/19 - Theory of Teaching or FMFI.KDMFI/1-UXX-134/18 - Theory of Teaching	
Course requirements: active participation in seminars and at least 50% of the semester Continuous assessment: active participation in seminars (50%) and homework (30%) Final test (20%) Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 80/20	
Learning outcomes: The student: <ul style="list-style-type: none"> - knows the content and scope of the subject of informatics determined by the State Educational Program for various types and levels of schools - will be able to design and evaluate curricula for the subject Informatics - is able to identify the basic steps in creating the educational content of the lesson - can interpret and evaluate available methodological materials - acquires basic pedagogical habits 	
Class syllabus: <ul style="list-style-type: none"> - Computer science teacher - Informatics in other countries - Curriculum analysis using Brunner's concept - Phases of teaching in computer science teaching - Educational goals of the subject of informatics at the 2nd level of elementary school and high school - Educational goals of individual topics of informatics - School curricula and curricula - Project teaching - Work with methodical materials - Planning and implementation of evaluation in the subject of informatics 	
Recommended literature:	

own electronic texts published From educational program to teaching lesson / Marvin Pasch ... [et al.]; translated by Milan Koldinský. Prague: Portal, 2005 Školní didaktika / Zdeněk Kalhous, Otto Obst ... [et al.]. Prague: Portal, 2002 Transformations of the school in the digital age / Ivan Kalaš and team. Bratislava: Slovenské pedagogické nakladateľstvo - Mladé letá, 2013					
Languages necessary to complete the course: Slovak					
Notes:					
Past grade distribution Total number of evaluated students: 166					
A	B	C	D	E	FX
78,92	6,02	6,63	3,61	0,6	4,22
Lecturers: Mgr. Karolína Miková, PhD.					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-251/00	Course title: Propedeutics of Informatics Education (2)
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 2	
Recommended semester: 4.	
Educational level: D, I., II.	
Prerequisites: FMFI.KDMFI/1-UIN-250/00 - Propedeutics of Informatics Education (1)	
Course requirements: Interim evaluation: active participation in seminars (presentation of preparation (50%) and feedback (50%)) Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 100/0	
Learning outcomes: The student will have experience in using theoretical knowledge in creating preparations for the lesson. He will be able to critically evaluate the design and implementation of the lesson and express his opinion in the discussion. The student will have built some basic pedagogical habits.	
Class syllabus: Course contents: Students will create preparations for computer science lessons for the following topics: Anti-virus and anti-spyware programs Internet security and risks Working with tables Working with presentations Working with graphics Working with sound Working with text Working with a website Encryption Coding Working with multimedia Communication tools Web search In the form of a simulation, the lessons will test the preparations made and then discuss them.	

Recommended literature:

From educational program to teaching lesson / Marvin Pasch ... [et al.]; translated by Milan Koldinský. Prague: Portal, 2005

Informatics for secondary schools: učebnica / Ivan Kalaš ... [et al.]. Bratislava: Slovenské pedagogické nakladateľstvo, 2005

Transformations of the school in the digital age / Ivan Kalaš and team. Bratislava: Slovenské pedagogické nakladateľstvo - Mladé letá, 2013

Work with graphics: thematic notebook for the 1st year of grammar schools, for the fifth of eight-year grammar schools / Ľubomír Salanci. Bratislava: Slovenské pedagogické nakladateľstvo, 2000

own electronic texts published on the website, resp. in the Moodle environment

Languages necessary to complete the course:

Slovak

Notes:**Past grade distribution**

Total number of evaluated students: 143

A	B	C	D	E	FX
76,92	6,99	2,8	2,8	3,5	6,99

Lecturers: Mgr. Karolína Miková, PhD.

Last change: 21.06.2022

Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI-PriF.KDPP/1- UXX-141/15		Course title: Psychology for Teachers (1)			
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 1.					
Educational level: D, I., II.					
Prerequisites:					
Antirequisites: FMFI-PriF.KDPP/1-UXX-131/10					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 576					
A	B	C	D	E	FX
19,97	14,93	24,31	19,1	17,19	4,51
Lecturers: RNDr. Jana Ciceková, PhD., PhDr. ThLic. Peter Ikhardt, PhD.					
Last change: 09.09.2019					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-142/15		Course title: Psychology for Teachers (2)			
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 2.					
Educational level: D, I., II.					
Prerequisites: FMFI-PriF.KDPP/1-UXX-141/15 - Psychology for Teachers (1)					
Antirequisites: FMFI-PriF.KDPP/1-UXX-135/10					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 511					
A	B	C	D	E	FX
24,66	16,44	19,57	22,7	13,89	2,74
Lecturers: RNDr. Jana Ciceková, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-UXX-340/00		Course title: Recreation Sports in Dialy Routine of Pupils and Students			
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 5.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus: To optimize the daily working programme of the students, the programmes of the sport recreational activities and time-off the students. The sport and health in a value orientation of the students. Using developed elemens in an education physical activity and sport preparation. The programmes of the sport recreational activities as a basic precondition of health strengthening, acquirement of physical capability, fitness, regaining of working energy and readiness of body to confront stress situations and dangerous factors as a basic precondition of health strengthening, acquirement of physical capability, fitness, regaining of working energy and readiness of body to confront stress situations and dangerous factors.					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 44					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Tomáš Kuchár, PhD.					
Last change: 14.01.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KDMFI/1-UIN-354/00	Course title: Robotics in Education (1)
Educational activities: Type of activities: course Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning	
Number of credits: 3	
Recommended semester: 6.	
Educational level: I.	
Prerequisites:	
Course requirements: Evaluation during semester: active participation (100%), discussion Scale of assessment (preliminary/final): 100/0	
Learning outcomes: Students <ul style="list-style-type: none"> - try out the implementation of introductory activities for elementary school students about the concept of robot; - get acquainted with LEGO WeDo programmable kits and the basics of the iconographic programming language Lego WeDo; - will discuss the possible use of WeDo kits in various subjects in the school; - get acquainted with project teaching and constructionist teaching and will be able to apply the basic principles of these forms in educational activities with the robotic kit LEGO WeDo; - will independently design, solve and present robotic projects. 	
Class syllabus: My first robot. Programming in Lego Mindstorms Education. <ul style="list-style-type: none"> - basics - robot movement, sensor data logging, input reactions, - advanced programming - variables, parallel processes. Data logging, measurement, experiments. Simulations and models. Robotics competition - design, construction, programming and documentation of robot for a given task. Robotics exhibition - design, construction and programming of robot for a given theme.	
Recommended literature: K možnostiam RoboLabu. P. Cvik. DidInfo 2002, KIFPV UMB Banská Bystrica RoboLab - mikropočítače v škole. P. Cvik. Zborník Inforek 2001, Stará Turá, 2001. Introduction to Robotics. Carnegie Mellon University, Robotics Academy, 2006. Roboadventures: the Good Life. Lego Mindstorms Educational Division, 2002.	

Languages necessary to complete the course:					
Notes:					
Past grade distribution					
Total number of evaluated students: 177					
A	B	C	D	E	FX
94,92	2,26	0,56	0,0	0,0	2,26
Lecturers: Mgr. Karolína Miková, PhD.					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-161/00		Course title: Russian Language (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Basic communication in Russian, developing other Russian language skills - listening comprehension, reading and writing.					
Class syllabus: To master the fundamentals of general Russian. The language level is A1. Learning the Cyrillic (Russian) alphabet, gaining basic language competence, building up skills and confidence in dealing with unfamiliar authentic and semi-authentic texts. The subject provides a course in Russian language for beginners.					
Recommended literature: The textbook: : Точка Ру А1 (Ольга Долматова, Екатерина Новачац), pracovné karty Падежи 1 (Л.С. Безкоровайная, В.Е. Штыленко).					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 707					
A	B	C	D	E	FX
58,56	16,55	11,03	4,38	1,84	7,64
Lecturers: Viktoria Mirsalova					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-162/00		Course title: Russian Language (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Basic communication in Russian, developing other Russian language skills - listening comprehension, reading and writing.					
Class syllabus: To master the fundamentals of general Russian. Learning the Cyrillic (Russian) alphabet, gaining basic language competence, building up skills and confidence in dealing with unfamiliar authentic and semi-authentic texts. The subject continues the program of Russian language (1) and provides a course of Russian for beginners.					
Recommended literature: Textbook: Точка Ру А1 (Ольга Долматова, Екатерина Новачац), pracovné karty Падежи 1 (Л.С. Безкорвайная, В.Е. Штыленко).					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 421					
A	B	C	D	E	FX
65,08	15,68	8,79	3,8	0,95	5,7
Lecturers: Viktoria Mirsalova					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-261/00		Course title: Russian Language (3)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Basic communication in Russian, developing other Russian language skills - listening comprehension, reading and writing.					
Class syllabus: Learning the handwritten Russian (Russian Cursive Cyrillic), developing further language skills, gaining knowledge of Russian culture, history and way of life, pre-intermediate to intermediate grammar and vocabulary. The course "Russian for Intermediate Students" is a follow-up to "Russian for Beginners". The subject of the course is general Russian in the range appropriate to the given level.					
Recommended literature: Точка Ру А2 (Ольга Долматова, Екатерина Новачац) а Short Stories in Russian (Olly Richards, Alex Rowlings)					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 200					
A	B	C	D	E	FX
70,5	17,5	8,5	2,5	0,0	1,0
Lecturers: Viktoria Mirsalova					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-262/00		Course title: Russian Language (4)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites:					
Course requirements: Scale of assessment (preliminary/final): 100/0					
Learning outcomes: Learning the handwritten Russian (Russian Cursive Cyrillic), developing further language skills, gaining knowledge of Russian culture, history and way of life, pre-intermediate to intermediate grammar and vocabulary.					
Class syllabus: Learning the handwritten Russian (Russian Cursive Cyrillic), developing further language skills, gaining knowledge of Russian culture, history and way of life, pre-intermediate to intermediate grammar and vocabulary. The course "Russian for Intermediate Students" is a follow-up to "Russian for Beginners". The subject of the course is general Russian in the range appropriate to the given level.					
Recommended literature: Точка Ру А2 (Ольга Долматова, Екатерина Новачац) а Short Stories in Russian (Olly Richards, Alex Rowlings)					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 144					
A	B	C	D	E	FX
75,69	13,19	6,94	2,78	0,69	0,69
Lecturers: Viktoria Mirsalova					
Last change: 20.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-320/15		Course title: School Experiments in Physics			
Educational activities: Type of activities: laboratory practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 5.					
Educational level: D, I.					
Prerequisites:					
Course requirements: Continuous assessment: tests (2x15 marks), assessment of individual work (2x15 marks) Exam: practical (20 marks), written (20 marks) Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: Students will gain an overview of selected experiments conducted at secondary school. They will be able to carry out the experiments independently, explain them from a physics point of view and include them appropriately in the process of physics and science education.					
Class syllabus: Safety in the school laboratory. Demonstration experiments, frontal, work of students in a group. Experiments on the properties of substances, fluid statics, calorimetry, molecular physics, fluid dynamics, statics and dynamics of a rigid body, work, power, energy, kinematics, motion and force.					
Recommended literature:					
Languages necessary to complete the course: Slovak and English.					
Notes:					
Past grade distribution Total number of evaluated students: 47					
A	B	C	D	E	FX
51,06	19,15	21,28	4,26	2,13	2,13
Lecturers: doc. PaedDr. Klára Velmovská, PhD., PaedDr. Simona Gorčáková					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-331/18		Course title: School Management			
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 1 / 2 per level/semester: 13 / 26 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 6.					
Educational level: D, I., II.					
Prerequisites:					
Antirequisites: FMFI-Prif.KDPP/1-UXX-331/15					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 112					
A	B	C	D	E	FX
53,57	13,39	25,0	3,57	0,0	4,46
Lecturers: Mgr. Karolína Miková, PhD., PaedDr. Tünde Kiss, PhD.					
Last change: 10.01.2020					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI+KEF/1-UFY-132/15		Course title: School Physics (1)			
Educational activities: Type of activities: lecture / course Number of hours: per week: 1 / 2 per level/semester: 13 / 26 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 70					
A	B	C	D	E	FX
84,29	4,29	4,29	1,43	0,0	5,71
Lecturers: PaedDr. Peter Horváth, PhD., doc. RNDr. František Kundracik, CSc.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-232/15		Course title: School Physics (2)			
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 2 / 2 per level/semester: 26 / 26 Form of the course: on-site learning					
Number of credits: 5					
Recommended semester: 3.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 56					
A	B	C	D	E	FX
33,93	26,79	16,07	12,5	0,0	10,71
Lecturers: PaedDr. Lukáš Bartošovič, PhD., doc. PaedDr. Viera Haverlíková, PhD.					
Last change: 02.06.2015					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KAI/2-IKVa-192/19	Course title: Science, Technology and Humanity: Opportunities and Risks
Educational activities: Type of activities: seminar Number of hours: per week: 3 per level/semester: 39 Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 2.	
Educational level: I., II.	
Prerequisites:	
Course requirements: Semestral evaluation: active participation Final evaluation: essay Weight of the final evaluation: 60% To achieve an A, 90% is needed, for B at least 80%, for C 70%, for D, 60% and for an E, at least 50% of overall assessment.	
Learning outcomes: The students will gain awareness of the contemporary and potential future challenges posed by scientific and technological innovations and their impact on human behaviour, culture and society.	
Class syllabus: Big data: privacy, politics and power, Internet of things, its usefulness and threats, Assistant AI and its place in future society, Job market and inequality, Enhancements and human rights and the right to change self and others, Initiatives for responsible research, Artificial minds, Hybridization between species and between AI and organic minds, Future of minds and trans-humanism, Artificial emotional intelligence, An after human era.	
Recommended literature: - S. Russell: Human compatible. Artificial intelligence and the problem of control. Viking, 2019. - J. Havens: Heartificial intelligence. Embracing our humanity to maximize machines. Penguin, 2016. - P. Boddington: Towards a code of ethics for artificial intelligence. Springer, 2017. - M. Shanahan: The technological singularity. MIT Press, 2015.	

- C. MacKellar, C.: Cyborg Mind: What Brain–Computer and Mind–Cyberspace Interfaces Mean for Cyberneuroethics. Berghahn Books, 2019.
- G. Bel, J. Gemmell: Total Recall, How the e-Memory Revolution will change everything. Dutton, 2009.
- S. Zuboff: The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power. PublicAffairs, 2019.
- C. O'Neil: Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy. Crown Publishers, 2016.
- M. Tegmark: Life 3.0. Allen Lane, 2017.

Languages necessary to complete the course:

English

Notes:

Past grade distribution

Total number of evaluated students: 48

A	B	C	D	E	FX
56,25	18,75	6,25	6,25	6,25	6,25

Lecturers: doc. RNDr. Martin Takáč, PhD., PhDr. Ing. Tomáš Gál, PhD.

Last change: 28.02.2020

Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UIN-230/00		Course title: Seminar in Mathematical Structures			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 120					
A	B	C	D	E	FX
88,33	4,17	0,0	1,67	0,83	5,0
Lecturers: Mgr. Lucia Budinská, PhD.					
Last change: 15.09.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-171/20		Course title: Slovak Language for Foreign Students (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I., II.					
Prerequisites:					
Course requirements: tests Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebežneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: This course is aimed for foreign students to learn the fundamentals of the Slovak language with the focus on basic communication as well as all other language skills- listening comprehension,reading and writing.					
Class syllabus: The syllabus is targeted at the comprehension of the basics of the Slovak language for the absolute beginners (A1).					
Recommended literature: Križom- Krážom Slovenčina 1, additional material to further support the covered topics.					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 23					
A	B	C	D	E	FX
47,83	0,0	0,0	0,0	0,0	52,17
Lecturers: Mgr. Aneta Barnes					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-172/20		Course title: Slovak Language for Foreign Students (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I., II.					
Prerequisites:					
Course requirements: tests Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebežneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: This course is aimed for foreign students to learn the fundamentals of the Slovak language with the focus on basic communication as well as all other language skills- listening comprehension,reading and writing.					
Class syllabus: The syllabus is targeted at the comprehension of the basics of the Slovak language for the absolute beginners (A1) and this course is a follow up course to the Slovak language course 1.					
Recommended literature: Križom- Krážom Slovenčina 1, additional material to further support the covered topics					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 22					
A	B	C	D	E	FX
81,82	0,0	4,55	0,0	0,0	13,64
Lecturers: Mgr. Aneta Barnes					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-271/20		Course title: Slovak Language for Foreign Students (3)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 3.					
Educational level: I., II.					
Prerequisites:					
Course requirements: tests Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebežneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: This course is aimed for foreign students to better comprehend all the language skills important to enable correct usage of the Slovak language – listening comprehension, reading, writing and speaking.					
Class syllabus: The syllabus is targeted at the comprehension of all the language skills of the Slovak language , and it is a follow up course to the Slovak language course 2.					
Recommended literature: Križom-Krážom Slovenčina 2, additional material to further support the covered topics.					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 8					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Aneta Barnes					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-272/20		Course title: Slovak Language for Foreign Students (4)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 4.					
Educational level: I., II.					
Prerequisites:					
Course requirements: tests Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebežneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/ Scale of assessment (preliminary/final): 100/0					
Learning outcomes: This course is aimed for foreign students to better comprehend all the language skills important to enable correct usage of the Slovak language – listening comprehension, reading, writing and speaking.					
Class syllabus: The syllabus is targeted at the comprehension of all the language skills of the Slovak language , and it is a follow up course to the Slovak language course 3.					
Recommended literature: Križom-Krážom Slovenčina 2, additional material to further support the covered topics.					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 7					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: Mgr. Aneta Barnes					
Last change: 21.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-332/10		Course title: Social Aspects of Informatics			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 3.					
Educational level: I., II.					
Prerequisites:					
Antirequisites: FMFI.KDMFI/1-INF-175/00					
Course requirements: Continuous assessment: seminar work Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50%					
Learning outcomes:					
Class syllabus: New ICT technologies are evolving very fast. But they are constantly entering our daily lives. We note what changes, what positive, but also what risks ICT brings in various areas: education, health, arts, business and finance, industry and others. We will pay special attention to the issue of copyright and its infringement and cybercrime. Also what risks they bring.					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 115					
A	B	C	D	E	FX
95,65	2,61	0,0	0,87	0,87	0,0
Lecturers: RNDr. Michal Winczer, PhD.					
Last change: 14.03.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-115/15		Course title: Sports in Nature (1)			
Educational activities: Type of activities: Number of hours: per week: per level/semester: Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: Grades: A 90%, B 80%, C 70%, D 60%, E 50%. The condition for the award of 1 or 2 credits is the completion of a multi-day course in its full scope, or the completion of one-day courses in the scope of 4 days. Candidates can apply to the leaders of individual courses. From the presented offer of courses, you can choose the one that suits your interests, abilities and deadlines.					
Learning outcomes: Acquisition and development of basic motor skills and abilities in selected sports: skiing and snowboarding. Mastering the correct technique of performing individual movements, which are necessary for skiing and snowboarding.					
Class syllabus: The student can sign up for the outdoor sports courses offered by the department: skiing, snowboarding and other hobby sports. The lessons in the courses are focused on the development of basic and special movement skills and, mastering the techniques needed for the sports.					
Recommended literature:					
Languages necessary to complete the course: Slovak					
Notes: KTVŠ does not rent ski equipment.					
Past grade distribution Total number of evaluated students: 227					
A	B	C	D	E	FX
99,56	0,0	0,44	0,0	0,0	0,0
Lecturers: Mgr. Martin Dovičák, PhD., Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, PaedDr. Mikuláš Ortutay, Mgr. Júlia Raábová, PhD.					

Last change: 16.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFL.KTV/1-MXX-215/15		Course title: Sports in Nature (2)			
Educational activities: Type of activities: Number of hours: per week: per level/semester: Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements: Grades: A 90%, B 80%, C 70%, D 60%, E 50% The condition for the award of 1 or 2 credits is the completion of a multi-day course in its full scope, or the completion of one-day courses in the scope of 4 days. Candidates can apply to the leaders of individual courses. From the presented offer of courses, you can choose the one that suits your interests, abilities and deadlines.					
Learning outcomes: Creating a positive and lasting relationship with physical activity. Acquisition and mastery of basic motor skills and abilities in outdoor sports: windsurfing, beach volleyball, water tourism - river rafting, hiking and other sports according to interest. Training and improving the technique needed for the sports.					
Class syllabus: The student can sign up for the outdoor sports courses offered by the department: water tourism - river rafting, windsurfing, beach volleyball, hiking and other hobby sports. The lessons in the courses are focused on the development of basic and special movement skills and, mastering the techniques needed for the sports.					
Recommended literature:					
Languages necessary to complete the course: Slovak					
Notes: KTVŠ will provide sports equipment.					
Past grade distribution Total number of evaluated students: 194					
A	B	C	D	E	FX
94,33	0,0	0,0	0,0	0,0	5,67

Lecturers: Mgr. Martin Dovičák, PhD., Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, PaedDr. Mikuláš Ortutay, Mgr. Júlia Raábová, PhD.
Last change: 16.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KTV/1-MXX-216/18		Course title: Sports in Nature (3)			
Educational activities: Type of activities: Number of hours: per week: per level/semester: Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 3.					
Educational level: I.					
Prerequisites:					
Antirequisites: FMFI.KTV/1-UXX-151/22					
Course requirements: Grades: A 90%, B 80%, C 70%, D 60%, E 50% The condition for the award of 1 or 2 credits is the completion of a multi-day course in its full scope, or the completion of one-day courses in the scope of 4 days. Candidates can apply to the leaders of individual courses. From the presented offer of courses, you can choose the one that suits your interests, abilities and deadlines.					
Learning outcomes: Acquisition and development of basic motor skills and abilities in selected sports: skiing and snowboarding. Mastering the correct technique of performing individual movements, which are necessary for skiing and snowboarding.					
Class syllabus: The student can sign up for the outdoor sports courses offered by the department: skiing, snowboarding. The lessons in the courses are focused on the development of basic and special movement skills and, mastering the techniques needed for the sports.					
Recommended literature:					
Languages necessary to complete the course: Slovak					
Notes: KTVŠ does not rent ski equipment.					
Past grade distribution Total number of evaluated students: 19					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: Mgr. Martin Dovičák, PhD., Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, PaedDr. Mikuláš Ortutay, Mgr. Júlia Raábová, PhD.
Last change: 16.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KTV/1-MXX-217/18		Course title: Sports in Nature (4)			
Educational activities: Type of activities: Number of hours: per week: per level/semester: Form of the course: on-site learning					
Number of credits: 1					
Recommended semester: 4.					
Educational level: I.					
Prerequisites:					
Antirequisites: FMFI.KTV/1-UXX-152/22					
Course requirements: Grades: A 90%, B 80%, C 70%, D 60%, E 50% The condition for the award of 1 or 2 credits is the completion of a multi-day course in its full scope, or the completion of one-day courses in the scope of 4 days. Candidates can apply to the leaders of individual courses. From the presented offer of courses, you can choose the one that suits your interests, abilities and deadlines.					
Learning outcomes: Creating a positive and lasting relationship with physical activity. Acquisition and mastery of basic motor skills and abilities in outdoor sports: windsurfing, beach volleyball, water tourism - river rafting, hiking and other sports according to interest. Training and improving the technique needed for the sports.					
Class syllabus: The student can sign up for the outdoor sports courses offered by the department: water tourism - river rafting, windsurfing, beach volleyball, hiking and other hobby sports. The lessons in the courses are focused on the development of basic and special movement skills and, mastering the techniques needed for the sports.					
Recommended literature:					
Languages necessary to complete the course: Slovak					
Notes: KTVŠ will provide material equipment.					
Past grade distribution Total number of evaluated students: 18					
A	B	C	D	E	FX
88,89	0,0	0,0	0,0	0,0	11,11

Lecturers: Mgr. Martin Dovičák, PhD., Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, PaedDr. Mikuláš Ortutay, Mgr. Júlia Raábová, PhD.
Last change: 16.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-133/18		Course title: Supplementary English Course (1)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 1.					
Educational level: I.					
Prerequisites:					
Course requirements: tests, homework Scale of assessment (preliminary/final): 100/0 credit - ongoing evaluation Minimum 65 percent of the total points for the assigned work is needed to pass the course. Points can be awarded for attendance, completed homework tasks, and short tests assigned during the course. A 100-93 %B 92-85 %C 84-77 %D 76-70 %E 69-65 % Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebezhneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/					
Learning outcomes:					
Class syllabus: Texts dealing with the most important topics for FMPI majors combining grammar revision with vocabulary needed to pass the A4 English exam.					
Recommended literature: Study materials are created by the teacher and available in electronic form. Raymond Murphy: Essential Grammar in Use, Cambridge University Press, 1998 Michael McCarthy, Felicity O'Dell: English Vocabulary in Use, Cambridge University Press, 1994					
Languages necessary to complete the course: English					
Notes:					
Past grade distribution Total number of evaluated students: 25					
A	B	C	D	E	FX
52,0	24,0	8,0	0,0	8,0	8,0
Lecturers: Mgr. Ing. Jana Kočvarová					

Last change: 17.06.2022
Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KJP/1-MXX-134/18		Course title: Supplementary English Course (2)			
Educational activities: Type of activities: practicals Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 2.					
Educational level: I.					
Prerequisites:					
Course requirements: tests, homework Scale of assessment (preliminary/final): 100/0 ENcredit - ongoing evaluation Minimum 65 percent of the total points for the assigned work is needed to pass the course. Points can be awarded for attendance, completed homework tasks, and short tests assigned during the course. A 100-93 % B 92-85 % C 84-77 % D 76-70 % E 69-65 %Course prerequisites: https://fmph.uniba.sk/microsites/kjp/katedra-jazykovej-pripravy/poziadavky-na-udelenie-priebezhneho-hodnotenia-aj1aj2aj3-ostatne-kurzy/					
Learning outcomes:					
Class syllabus: Texts dealing with the most important topics for FMPI majors combining grammar revision with vocabulary needed to pass the A4 English exam.					
Recommended literature: Study materials are created by the teacher and available in electronic form. Raymond Murphy: Essential Grammar in Use, Cambridge University Press, 1998 Michael McCarthy, Felicity O'Dell: English Vocabulary in Use, Cambridge University Press, 1994					
Languages necessary to complete the course: English					
Notes:					
Past grade distribution Total number of evaluated students: 26					
A	B	C	D	E	FX
57,69	15,38	0,0	11,54	3,85	11,54
Lecturers: Mgr. Ing. Jana Kočvarová					
Last change: 17.06.2022					

Approved by:

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-831/15		Course title: Teaching Practice in Computer Science (1)			
Educational activities: Type of activities: practice Number of hours: per week: per level/semester: 30s Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 39					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: RNDr. Michal Winczer, PhD.					
Last change:					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-821/15		Course title: Teaching Practice in Physics (1)			
Educational activities: Type of activities: practice Number of hours: per week: per level/semester: 30s Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 35					
A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0
Lecturers: PaedDr. Peter Horváth, PhD.					
Last change:					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-132/18		Course title: Theoretical Fundaments of Education			
Educational activities: Type of activities: lecture / seminar Number of hours: per week: 1 / 1 per level/semester: 13 / 13 Form of the course: on-site learning					
Number of credits: 3					
Recommended semester: 3.					
Educational level: I., II.					
Prerequisites:					
Antirequisites: FMFI-Prif.KDPP/1-UXX-132/10					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 216					
A	B	C	D	E	FX
34,72	34,26	18,98	8,33	1,39	2,31
Lecturers: Mgr. Lucia Budinská, PhD.					
Last change: 15.09.2021					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UXX-134/19		Course title: Theory of Teaching			
Educational activities: Type of activities: course Number of hours: per week: 3 per level/semester: 39 Form of the course: on-site learning					
Number of credits: 4					
Recommended semester: 3.					
Educational level: D, I., II.					
Prerequisites:					
Antirequisites: FMFI.KDMFI/1-UXX-134/18					
Course requirements:					
Learning outcomes:					
Class syllabus:					
Recommended literature:					
Languages necessary to complete the course:					
Notes:					
Past grade distribution Total number of evaluated students: 115					
A	B	C	D	E	FX
46,09	25,22	11,3	7,83	4,35	5,22
Lecturers: Mgr. Karolína Miková, PhD.					
Last change: 01.09.2019					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022					
University: Comenius University Bratislava					
Faculty: Faculty of Mathematics, Physics and Informatics					
Course ID: FMFI.KDMFI/1-UFY-265/15		Course title: Unconventional Physics			
Educational activities: Type of activities: seminar Number of hours: per week: 2 per level/semester: 26 Form of the course: on-site learning					
Number of credits: 2					
Recommended semester: 6.					
Educational level: I.					
Prerequisites:					
Course requirements: Continuous assessment: active seminar work (40 marks), assessment of teaching-learning sequences (3x20 marks) Indicative rating scale: A 90%, B 80%, C 70%, D 60%, E 50%. Credits will not be awarded if a student scores less than 50%.					
Learning outcomes: The student will be able to apply physics in non-traditional, practical tasks and interesting life situations. He will get inspiration to lead a physics afternoon class at school.					
Class syllabus: Students will get acquainted with non-traditional approaches to the introduction and practice of selected physical concepts and laws from the curriculum of primary and secondary school through simple experiments, non-traditional tasks, home laboratory tasks, projects. They will get acquainted with the possibilities of using these approaches in non-formal and informal science education.					
Recommended literature:					
Languages necessary to complete the course: Slovenský a anglický.					
Notes:					
Past grade distribution Total number of evaluated students: 43					
A	B	C	D	E	FX
97,67	0,0	0,0	0,0	0,0	2,33
Lecturers: doc. PaedDr. Klára Velmovská, PhD.					
Last change: 18.06.2022					
Approved by:					

COURSE DESCRIPTION

Academic year: 2021/2022	
University: Comenius University Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KEF/1-UFY-210/00	Course title: Waves and Optics
Educational activities: Type of activities: lecture / practicals Number of hours: per week: 3 per level/semester: 39 / 13s Form of the course: on-site learning	
Number of credits: 5	
Recommended semester: 3.	
Educational level: I.	
Prerequisites:	
Course requirements: Continuous assessment: written tests, lab reports Exam: oral, written Indicative assessment scale: A 90%, B 80%, C 70%, D 60%, E 50% Credits will be awarded if the student obtains at least 50% marks.	
Learning outcomes: Graduates have a systematic knowledge of mechanical waves (including sound) and wave optics at the level of a core university physics course. They have an idea of the boundaries between graduation and university physics in the field of wave optics from the point of view of work with high school youth with an increased interest in physics.	
Class syllabus: Oscillations and oscillating systems (modes, resonators, oscillations and waves, Fourier analysis of oscillations). Waves (harmonic waves, complex notation, wave superposition, wave polarization, Doppler effect, wave diffraction, waves in physics, and waves at boundaries). Wave optics (light interference, light diffraction, holography, light dispersion in dielectrics, dispersion, polarization by reflection and refraction, spreading of light in anisotropic conditions). Geometrical optics and basics of optical projection. Photo metrics. Contemporary problems in optics.	
Recommended literature: Main I. G.: Kmity a vlny ve fyzice, Academia Praha 1990 Feynman R. P., Leighton R. B., Sands M.: Feynmanove prednášky z fyziky 2, Alfa Bratislava 1982 Z. Chorvátová: Kmity a vlny, skriptum MFF UK, Bratislava 1994 Štrba A., Mesaroš V., Senderáková D.: Optika s príkladmi I, skriptum MFF UK, Bratislava 1996 Hecht E.: Optics, Addison-Wenslez Publishing Company, Inc. 1987	
Languages necessary to complete the course: Slovak ad English.	
Notes:	

Past grade distribution					
Total number of evaluated students: 103					
A	B	C	D	E	FX
27,18	21,36	30,1	12,62	7,77	0,97
Lecturers: prof. RNDr. Pavel Veis, CSc.					
Last change: 11.11.2021					
Approved by:					