Course descriptions

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COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-217/15	Analysis of Surfaces and thin Layers Using Electromagnetic Radiation

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 3.

Educational level: 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: 10

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: doc. RNDr. Tomáš Roch, Dr., Dr. rer. nat. Peter Šiffalovič, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-113/15	Atomic and Molecular Structure

Educational activities:
Type of activities: lecture / practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 1.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-113/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 26

A	B	C	D	E	FX
80,77	11,54	3,85	3,85	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc., doc. RNDr. Mário Janda, PhD., Mgr. Adriana Annušová, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-116/15	Basic Electronics

Educational activities:
Type of activities: lecture / laboratory practicals
Number of hours:
per week: 3 / 3 **per level/semester:** 42 / 42
Form of the course: on-site learning

Number of credits: 7

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: 208

A	B	C	D	E	FX
98,08	0,0	1,92	0,0	0,0	0,0

Lecturers: doc. RNDr. František Kundracik, CSc., RNDr. Matej Klas, PhD., RNDr. Juraj Országh, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-231/00	Design of Optical Systems

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 2.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Basic optical systems, apertures and stops, optical abberations. Optical design – main considerations and general procedure. Design of some basic optical systems using commercial software. Measurement and inspection of the main characteristics of optical systems.

Recommended literature:
Schröder G., Technická optika, SNTL, Praha 1981
Shannon R. R., The Art and Science of Optical Design, Cambridge University Press, London 1997
Waren J. Smith, Practical Optical System Layout, McGraw Hill, New York 1997

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. Peter Čermák, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-914/15	Diploma Thesis (1)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2.

Educational level: 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: 21

A	B	C	D	E	FX
95,24	0,0	4,76	0,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-915/15	Diploma Thesis (2)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 4 **per level/semester:** 56
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 3.

Educational level: 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: 20

A	B	C	D	E	FX
90,0	0,0	0,0	10,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-916/15	Diploma Thesis (3)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 6 **per level/semester:** 84
Form of the course: on-site learning

Number of credits: 6

Recommended semester: 4.

Educational level: 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: 19

A	B	C	D	E	FX
94,74	5,26	0,0	0,0	0,0	0,0

Lecturers:

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

STATE EXAM DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KEF/2-FOL-991/15	**Course title:** Diploma Thesis Defense
Number of credits: 4	
Educational level: II.	
State exam syllabus:	
Last change: 02.06.2015	
Approved by: prof. RNDr. Pavel Veis, CSc.	

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-921/15	Diploma Thesis Seminar (1)

Educational activities:
Type of activities: seminar
Number of hours:
per week: 1 **per level/semester:** 14
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 3.

Educational level: 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: 21

A	B	C	D	E	FX
90,48	0,0	4,76	0,0	0,0	4,76

Lecturers: prof. RNDr. Pavel Veis, CSc., RNDr. Dagmar Senderáková, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-922/15	Diploma Thesis Seminar (2)

Educational activities:
Type of activities: seminar
Number of hours:
per week: 1 **per level/semester:** 14
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 4.

Educational level: 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: 4

A	B	C	D	E	FX
75,0	0,0	0,0	0,0	25,0	0,0

Lecturers: doc. RNDr. Mário Janda, PhD., RNDr. Dagmar Senderáková, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FTL-115/15	Electronic Components and Circuits

Educational activities:
Type of activities: lecture / practicals
Number of hours:
per week: 4 / 2 **per level/semester:** 56 / 28
Form of the course: on-site learning

Number of credits: 8

Recommended semester: 2.

Educational level: 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: 15

A	B	C	D	E	FX
46,67	53,33	0,0	0,0	0,0	0,0

Lecturers: doc. RNDr. František Kundracik, CSc., prof. RNDr. Miroslav Grajcar, DrSc., prof. RNDr. Andrej Plecenik, DrSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-233/13	English Conversation Course (1)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 1., 3.

Educational level: I., II.

Prerequisites:

Course requirements:
Scale of assessment (preliminary/final): 100/0

Learning outcomes:

Class syllabus:
The content of the course is general English.
The language level is B2/C1 (Upper-Intermediate/Lower Advanced).

Recommended literature:
Selection of materials from Inside Out Upper-Intermediate, Cutting Edge Upper-Intermediate, New English File Upper-Intermediate, British and American newspapers and journals
Recordings: authentic and semi-authentic (source: BBC, CNN, coursebook recordings)

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 135

A	B	C	D	E	FX
58,52	18,52	9,63	2,22	1,48	9,63

Lecturers: PhDr. Elena Klátiková

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-234/13	English Conversation Course (2)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2., 4.

Educational level: I., II.

Prerequisites:

Course requirements:
Scale of assessment (preliminary/final): 100/0

Learning outcomes:

Class syllabus:
The course is a follow-up to the Conversation Course in English (1). The content of the course is general English.
The language level is B2/C1 (Upper-Intermediate/Lower Advanced).

Recommended literature:
Selection of materials from Inside Out Upper-Intermediate, Cutting Edge Upper-Intermediate, New English File Upper-Intermediate, British and American newspapers and journals
Recordings: authentic and semi-authentic (source: BBC, CNN, coursebook recordings)

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 62

A	B	C	D	E	FX
67,74	19,35	4,84	0,0	0,0	8,06

Lecturers: PhDr. Elena Klátiková

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-225/15	Experimental Methods in Optics and Spectroscopy

Educational activities:
Type of activities: lecture / course
Number of hours:
per week: 3 / 3 **per level/semester:** 42 / 42
Form of the course: on-site learning

Number of credits: 8

Recommended semester: 1.

Educational level: 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: 23

A	B	C	D	E	FX
91,3	4,35	4,35	0,0	0,0	0,0

Lecturers: doc. RNDr. Karol Hensel, PhD., Mgr. Michal Anguš, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-141/00	French Language (1)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 1.

Educational level: I., II.

Prerequisites:

Course requirements:

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:
Pravda, Pravdová: Učebnica francúzštiny pre samoukov a kurzy, SPN Bratislava 1999, ISBN 80-08-00431-2

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 374

A	B	C	D	E	FX
39,84	22,19	21,66	10,16	2,14	4,01

Lecturers: Mgr. Pavel Vilášek, Mgr. Ľubomíra Kožehubová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-142/00	French Language (2)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject continues the program of French language (1) and provides courses of essential and intermediate French language.

Recommended literature:
Pravda, Pravdová: Učebnica francúzštiny pre samoukov a kurzy, SPN Bratislava 1999, ISBN 80-08-00431-2
Blažena Srncová: Učebnica francúzštiny pre študentov Matematicko-fyzikálnej fakulty , UK 1983
Kolektív Lingea, s.r.o.: Slovensko-francúzsky hovorník, Bratislava 2008

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 237

A	B	C	D	E	FX
34,18	27,85	21,52	11,39	2,53	2,53

Lecturers: Mgr. Pavel Vilášek, Mgr. Ľubomíra Kožehubová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-241/00	French Language (3)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 3.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject provides a course of intermediate French language, covering not only general, but also technical language.

Recommended literature:
Pravda, Pravdová: Učebnica francúzštiny pre samoukov a kurzy, SPN Bratislava 1999, ISBN 80-08-00431-2
Blažena Srncová: Učebnica francúzštiny pre študentov Matematicko-fyzikálnej fakulty , UK 1983
Kolektív Lingea, s.r.o.: Slovensko-francúzsky hovorník, Bratislava 2008

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 93

A	B	C	D	E	FX
33,33	30,11	23,66	7,53	1,08	4,3

Lecturers: Mgr. Pavel Vilášek, Mgr. Ľubomíra Kožehubová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-242/00	French Language (4)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 4.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject provides a course of intermediate French covering not only general, but also technical French language.

Recommended literature:
Pravda, Pravdová: Učebnica francúzštiny pre samoukov a kurzy, SPN Bratislava 1999, ISBN 80-08-00431-2
Blažena Srncová: Učebnica francúzštiny pre študentov Matematicko-fyzikálnej fakulty , UK 1983
Kolektív Lingea, s.r.o.: Slovensko-francúzsky hovorník, Bratislava 2008
Zarha Lahmidi: Sciences-techniques.com, ISBN 209-0331186-0, CLE international, 2005

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 63

A	B	C	D	E	FX
31,75	38,1	20,63	3,17	1,59	4,76

Lecturers: Mgr. Pavel Vilášek, Mgr. Ľubomíra Kožehubová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-110/09	Fundamentals of Laser Spectroscopy

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 3.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Basic principles of lasers, Wavelength scanning of lasers, linewidth, emission stability, principles of detection. Differences between classical and laser spectroscopy. Linewidth of spectra : natural line broadening, Doppler effect, temperature broadening. Laser spectroscopic techniques: absorption spectroscopy, LIF, Raman spectroscopy, high sensitivity techniques: frequency and amplitude modulation, speed modulation of ions, cavity enhanced spectroscopy, pulsed and cw CRDS, optical-feedback CRDS, ICLAS, mode-locked cavity enhanced spectroscopy; saturation spectroscopy, sub-Doppler spectroscopy, time-resolved spectroscopy. Use of laser spectroscopy: plasma spectroscopy, atmospheric spectroscopy, temperature measurement of gases, ions, drift speed measurements, determining of concentrations of different species; isotope separation, laser cooling, wavelength measurements of light.

Recommended literature:
Demtröder W., Laser Spectroscopy, Springer Verlag, Berlin

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 17

A	B	C	D	E	FX
82,35	17,65	0,0	0,0	0,0	0,0

Lecturers: doc. RNDr. Mário Janda, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-151/00	German Language (1)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 1.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

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.

Recommended literature:
Vilášek, P.: Nemčina pre študentov FMFI, Na webovej stránke autora v elektronickej podobe.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 648

A	B	C	D	E	FX
31,94	29,17	21,3	10,03	2,93	4,63

Lecturers: Mgr. Pavel Vilášek, Mgr. Alexandra Maďarová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-152/00	German Language (2)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The course continues the program of German language (1). German language is taught at three levels: beginner, intermediate, advanced.

Recommended literature:
Vilášek, P.: Nemčina pre študentov FMFI, Na webovej stránke autora v elektronickej podobe.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 408

A	B	C	D	E	FX
29,17	22,06	23,77	14,95	3,68	6,37

Lecturers: Mgr. Pavel Vilášek, Mgr. Alexandra Maďarová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-251/00	German Language (3)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 3.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject continues the program of German language (2). It provides a course of intermediate and advanced German language.

Recommended literature:
Vilášek, P.: Nemčina pre študentov FMFI, Na webovej stránke autora v elektronickej podobe.
Aus moderner Technik und Naturwissenschaft, 1999, Max Hueber Verlag, D-85737, ISBN 3-19-001629-1

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 148

A	B	C	D	E	FX
38,51	27,03	22,3	6,76	2,7	2,7

Lecturers: Mgr. Pavel Vilášek, Mgr. Alexandra Maďarová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-252/00	German Language (4)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 4.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject continues the program of German language (3). It provides a course of intermediate and advanced German language.

Recommended literature:
Vilášek, P.: Nemčina pre študentov FMFI, Na webovej stránke autora v elektronickej podobe.
Vilma Václavíková: Nemčina pre študentov MFF UK, Vysokoškolský učebný text pre potrebu študentov KJP, č. 9793/1982 C VIII/2, 1983

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 78

A	B	C	D	E	FX
35,9	28,21	14,1	12,82	3,85	5,13

Lecturers: Mgr. Pavel Vilášek, Mgr. Alexandra Maďarová

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-108/00	Holography and Interferometry

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 4.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Physical principles and a brief overview of classical interferometry methods. Physical basics and experimental condition of the holographic method. Various kinds of holograms and their properties. The basic difference between classical and holographic interferometry. Holographic interferometry – basic methods and advantages. Interferometry of transparent objects. Sensitivity of the holographic method. Interferometry of surfaces. Abramson's method. Holographic topography. Holographic interferometric defectoscopy. Laser speckle utilisation in interferometry.

Recommended literature:
M.Miler: Holografie, SNTL, Praha, l974
J.Balas, V.Szabo: Holografická interferometria v experimentálnej technike, Bratislava, 1986
Caulfield H.J.: Handbook of Optical Holography (Optičeskaja golografija, Mir, Moskva 1982)
Vest Ch.M.: Holographic Interferometry (Golografičeskaja interferometrija, Mir, Moskva 1982)
Specialised journals and publications

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 74

A	B	C	D	E	FX
52,7	22,97	18,92	1,35	4,05	0,0

Lecturers: doc. RNDr. Vladimír Mesároš, CSc., RNDr. Dagmar Senderáková, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-117/15	Introduction to Solid State Physics

Educational activities:
Type of activities: lecture / practicals
Number of hours:
per week: 4 / 2 **per level/semester:** 56 / 28
Form of the course: on-site learning

Number of credits: 7

Recommended semester: 2.

Educational level: I., II.

Prerequisites:

Course requirements:
homeworks + 2 written tests
A 90%, B 80%, C 70%, D 60%, E 50%
Scale of assessment (preliminary/final): 100/0

Learning outcomes:
The students will be able to use notions such as: ideal crystal, reciprocal space, phonon spectrum, electron spectrum, Fermi surface. They will understand how these notions enter the analysis of thermal, electrical, and optical properties of solids.

Class syllabus:
Classification of phases based on symmetry. Van der Waals-London bond. Liquid-gas transition. Crystals with van der Waals and ionic bonding. Elements of crystallography. Surface tension and nucleation. Diffraction experiments and reciprocal space. Classical and quantum theory of lattice vibrations. Metallic bond. Chemical bond. Spectrum of electrons in solids: tight-binding method, Bloch theorem, metals vs. insulators. Transport phenomena: phenomenology, Boltzmann equation. Semiconductors and semiconductor electronics. Response to time-dependent fields. Elementary models of dielectric function.

Recommended literature:
Condensed matter physics : Corrected printing / Michael P. Marder. New York : John Wiley, 2000
Introduction to Solid State Physics / Charles Kittel.
New York: John Wiley, 2005

Languages necessary to complete the course:
english

Notes:

Past grade distribution
Total number of evaluated students: 67

A	B	C	D	E	FX
50,75	14,93	16,42	11,94	5,97	0,0

Lecturers: doc. RNDr. Richard Hlubina, DrSc.
Last change: 18.10.2016
Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-107/00	Laboratory Practical in Optics

Educational activities:
Type of activities: laboratory practicals
Number of hours:
per week: 3 **per level/semester:** 42
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 1.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Coherence length. Holographic optical elements. Properties of a solid state laser. Laser picosecond spectroscopy. Transfer properties of optical fibres. Second harmonic generation. Parametric generation.

Recommended literature:
Literature recomended to the subjects “Laser Physics” and “Wave Optics”. Manuals or technical documentation to the experimental systems used.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 60

A	B	C	D	E	FX
65,0	23,33	5,0	5,0	0,0	1,67

Lecturers: RNDr. Ján Greguš, PhD., RNDr. Zuzana Zábudlá, RNDr. Pavel Vojtek, CSc., Mgr. Peter Čermák, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-237/15	Laser Applications, Processes and Diagnostics

Educational activities:
Type of activities: lecture
Number of hours:
per week: 3 **per level/semester:** 42
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 2.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-237/09

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 9

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc., RNDr. Pavel Vojtek, CSc., Mgr. Michal Anguš, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-233/00	Laser Technique

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 3.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Optical resonators, mirrors and dispersive elements of optical resonators. Methods of laser radiation forming. Specificity of different types of lasers (gas, solid state, diode). Methods to shorten laser pulses. Utilisation of lasers in science, industry and medicine.

Recommended literature:
Wilson J., Hawkes J. F. B., Lasers principles and applications, Prentice-hall, N. Jersey 1987
P. Engst, Horák M., Aplikace laserů, SNTL, Praha 1989
specialised journals

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 17

A	B	C	D	E	FX
94,12	0,0	0,0	0,0	5,88	0,0

Lecturers: RNDr. Pavel Vojtek, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-239/15	Laser-generated Plasma

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 2.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-239/09

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 5

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc., Mgr. Michal Anguš, PhD., Mgr. Michaela Horňáčková, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/2-FOL-219/15	**Course title:** Lasers and Optical Fibers in Medicine
Educational activities: **Type of activities:** lecture **Number of hours:** **per week:** 3 **per level/semester:** 42 **Form of the course:** on-site learning	
Number of credits: 4	
Recommended semester: 3.	
Educational level: II.	
Prerequisites:	
Antirequisites: FMFI.KJFB/2-FBM-235/00	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	

Past grade distribution
Total number of evaluated students: 4

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Libuša Šikurová, CSc., RNDr. Dušan Chorvát, PhD.
Last change: 02.06.2015
Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-202/13	Light Scattering by Small Particles

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 3.

Educational level: 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: 6

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: Mgr. Miroslav Kocifaj, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-109/00	Nonlinear Optics

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 2.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Phenomenological theory of nonlinear susceptibility. Tensor of nonlinear susceptibility. Kleiman's relations. Electromagnetic waves in nonlinear media. Quadratic and cubic nonlinear optical phenomena.

Recommended literature:
Shen Y. R., The Principles of Nonlinear Optics, J. Willey and Sons, Inc. 1984
Chmela P., Úvod do nelineární optiky I, UP Olomouc 1982
Bahaa E. A. Saleh, Teich M. C., Základy fotoniky, Matfyzpress, Praha 1996

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 21

A	B	C	D	E	FX
66,67	23,81	9,52	0,0	0,0	0,0

Lecturers: doc. RNDr. Vladimír Mesároš, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-215/15	Optical Spectroscopy

Educational activities:
Type of activities: lecture / practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 2.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-215/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 53

A	B	C	D	E	FX
66,04	30,19	1,89	1,89	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc., doc. RNDr. Mário Janda, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-115/15	Optics and Lasers

Educational activities:
Type of activities: lecture
Number of hours:
per week: 3 **per level/semester:** 42
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: 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: 17

A	B	C	D	E	FX
41,18	29,41	5,88	11,76	11,76	0,0

Lecturers: doc. RNDr. Vladimír Mesároš, CSc., RNDr. Dagmar Senderáková, CSc., prof. RNDr. Pavel Veis, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-234/00	Optics of Thin Layers

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 3.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Fresnel relations and their analysis. Thin and thick layer. Thin layer on a glass. Calculating of a thin layers system reflectivity and transmitivity. Alternating layers and a matrix method of reflectivity calculation. Utilisation of thin layers in optical and laser systems.

Recommended literature:
Vašíček A., Optika tenkých vrstev, Nakl. ČSAV, Praha 1956
Haus H. A., Waves and fields in optoelectronics, Prentice-Hall, N. Jersey 1984
Müllerová J., Spektrofotometria tenkých vrstie, SES, Liptovský Mikuláš 2004

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 14

A	B	C	D	E	FX
85,71	14,29	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Anton Štrba, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-208/15	Photonics

Educational activities:
Type of activities: lecture / practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 3.

Educational level: 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: 4

A	B	C	D	E	FX
75,0	0,0	0,0	0,0	0,0	25,0

Lecturers: RNDr. Dagmar Senderáková, CSc., doc. RNDr. Anna Zahoranová, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/2-MXX-110/00	Physical Education and Sport (1)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 1.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Practicing of the students´ game skills in collective sports: basketball, volleyball, football, floorball and hockey. Mastering of the basic technique of a particular sport discipline in other sports. In paddling, basic training on still and slightly flowing water. Development of coordination skills, improvement of articular mobility and cardiovascular system.

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 1329

A	B	C	D	E	FX
99,1	0,6	0,0	0,0	0,0	0,3

Lecturers: PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický, doc. PhDr. Vojtech Potočný, CSc., Mgr. Jana Leginusová, Mgr. Tomáš Kuchár, PhD., PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/2-MXX-120/00	Physical Education and Sport (2)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Practicing of offensive and defensive game combinations and playing with modified rules in collective sports such as basketball, volleyball, football, floorball, hockey. Command of elements of higher difficulty in locomotion skills (swimming - crawl stroke, breast stroke, butterfly stroke, trampoline jumping and aerobics – practicing of areobics compositions, bodybuilding – development of the main muscle groups, paddling on running water. Testing of the level of physical fitness and coordination skills.

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 1223

A	B	C	D	E	FX
99,84	0,08	0,0	0,0	0,0	0,08

Lecturers: Mgr. Martin Dovičák, Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Branislav Nedbálek, PaedDr. Mikuláš Ortutay, Mgr. Ondrej Podkonický, doc. PhDr. Vojtech Potočný, CSc., Mgr. Júlia Raábová, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/2-MXX-210/00	Physical Education and Sport (3)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 3.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
To improve offensive and defensive game combinations in collective sports. Practicing of tactical and technical elements in individual sports. Compensatory exercises to correct wrong body posture. Stretching. Competition rules in sport disciplines.

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 992

A	B	C	D	E	FX
99,4	0,4	0,0	0,0	0,0	0,2

Lecturers: PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický, doc. PhDr. Vojtech Potočný, CSc., Mgr. Jana Leginusová, Mgr. Tomáš Kuchár, PhD., PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, Mgr. Júlia Raábová, PhD., Mgr. Branislav Nedbálek

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/2-MXX-220/00	Physical Education and Sport (4)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 4.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Sport training for Faculty Championships in a selected sport with modified rules. Selection of sport-talented students into teams of the Faculty Sport League, University League of Bratislava Faculties, and participation in sport events of the Faculty and University.

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 868

A	B	C	D	E	FX
99,31	0,46	0,0	0,0	0,12	0,12

Lecturers: PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický, doc. PhDr. Vojtech Potočný, CSc., Mgr. Jana Leginusová, Mgr. Tomáš Kuchár, PhD., PaedDr. Mikuláš Ortutay, Mgr. Martin Dovičák, Mgr. Branislav Nedbálek

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-101/15	Physics of Lasers

Educational activities:
Type of activities: lecture
Number of hours:
per week: 3 **per level/semester:** 42
Form of the course: on-site learning

Number of credits: 5

Recommended semester: 1.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-101/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 78

A	B	C	D	E	FX
76,92	12,82	5,13	1,28	3,85	0,0

Lecturers: prof. RNDr. Anton Štrba, CSc., doc. RNDr. Vladimír Mesároš, CSc., prof. RNDr. Pavel Veis, CSc., Mgr. Michaela Horňáčková, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

STATE EXAM DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KEF/2-FOL-955/15	**Course title:** Physics of Lasers and Optical Spectroscopy
Number of credits: 6	
Educational level: II.	
State exam syllabus:	
Last change: 02.06.2015	
Approved by: prof. RNDr. Pavel Veis, CSc.	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KEF/2-FFP-101/15	**Course title:** Plasma Physics (1)

Educational activities:
Type of activities: lecture / practicals
Number of hours:
per week: 2 / 1 **per level/semester:** 28 / 14
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 1.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FFP-101/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 85

A	B	C	D	E	FX
41,18	25,88	18,82	5,88	5,88	2,35

Lecturers: prof. Dr. Štefan Matejčík, DrSc., Mgr. Michal Stano, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-112/15	Plasma Radiation

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 2.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FFP-212/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 11

A	B	C	D	E	FX
90,91	0,0	9,09	0,0	0,0	0,0

Lecturers: doc. RNDr. Anna Zahoranová, PhD., doc. RNDr. Mário Janda, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-111/15	Principles and Methods of Applied Optics

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 4.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-111/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 20

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: RNDr. Milan Držík, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-161/00	Russian Language (1)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 1.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject provides a course in Russian language for beginners.

Recommended literature:
The textbook has not been published. It is at students' disposal in an electronic format.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 642

A	B	C	D	E	FX
60,9	16,2	9,66	4,83	1,71	6,7

Lecturers: PhDr. Elena Klátiková

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-162/00	Russian Language (2)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 2.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The subject continues the program of Russian language (1) and provides a course of Russian for beginners.

Recommended literature:
The textbook has not been published. It is at students' disposal in an electronic format.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 389

A	B	C	D	E	FX
65,81	16,2	9,0	3,34	1,03	4,63

Lecturers: PhDr. Elena Klátiková

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-261/00	Russian Language (3)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 3.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
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:
The textbook has not been published. It is at students' disposal in an electronic format.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 191

A	B	C	D	E	FX
70,68	17,28	8,38	2,62	0,0	1,05

Lecturers: PhDr. Elena Klátiková

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/1-MXX-262/00	Russian Language (4)

Educational activities:
Type of activities: practicals
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 2

Recommended semester: 4.

Educational level: I., II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
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:
The textbook has not been published. It is at students' disposal in an electronic format.

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 130

A	B	C	D	E	FX
73,85	13,85	7,69	3,08	0,77	0,77

Lecturers: PhDr. Elena Klátiková

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-154/15	Semester Project

Educational activities:
Type of activities: independent work
Number of hours:
per week: 6 **per level/semester:** 84
Form of the course: on-site learning

Number of credits: 4

Recommended semester: 2.

Educational level: 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: 5

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-210/00	Special Practical in Optical Spectroscopy

Educational activities:
Type of activities: laboratory practicals
Number of hours:
per week: 6 **per level/semester:** 84
Form of the course: on-site learning

Number of credits: 6

Recommended semester: 2.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Visible and infrared spectroscopy – prism and grating spectrometers, photomultiplier, CCD detector, calibration of a spectrometer, time-resolved spectroscopy, actinometry, determination of rotational and vibrational temperatures of diatomic molecules. Spectroscopy in vacuum ultraviolet range. Cavity ring-down spectroscopy. Echelett spectrometer.

Recommended literature:
A. Beiser, Úvod do moderní fyziky, Academia, Praha 1978
G.V. Maar: Plasma Spectroscopy, Elsevier Amsterdam 1968
Scientific papers

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 17

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc., Mgr. Adriana Annušová, PhD., Mgr. Michaela Horňáčková, PhD., Mgr. Michal Anguš, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/2-FOL-211/15	Specialised Practical Classes in Laser Physics

Educational activities:
Type of activities: laboratory practicals
Number of hours:
per week: 6 **per level/semester:** 84
Form of the course: on-site learning

Number of credits: 6

Recommended semester: 3.

Educational level: II.

Prerequisites:

Antirequisites: FMFI.KEF/2-FOL-211/00

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	7,14	21,43	0,0	0,0	0,0

Lecturers: prof. RNDr. Pavel Veis, CSc., doc. RNDr. Vladimír Mesároš, CSc., RNDr. Dagmar Senderáková, CSc., RNDr. Pavel Vojtek, CSc., RNDr. Zuzana Zábudlá

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/1-MXX-115/15	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: 2.

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: 171

A	B	C	D	E	FX
99,42	0,0	0,58	0,0	0,0	0,0

Lecturers: Mgr. Martin Dovičák, Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický

Last change: 25.05.2016

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/1-MXX-115/15	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., 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: 171

A	B	C	D	E	FX
99,42	0,0	0,58	0,0	0,0	0,0

Lecturers: Mgr. Martin Dovičák, Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický

Last change: 25.05.2016

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/1-MXX-215/15	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: 3.

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: 94

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: Mgr. Martin Dovičák, Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický

Last change: 25.05.2016

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTV/1-MXX-215/15	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: 4.

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: 94

A	B	C	D	E	FX
100,0	0,0	0,0	0,0	0,0	0,0

Lecturers: Mgr. Martin Dovičák, Mgr. Tomáš Kuchár, PhD., Mgr. Jana Leginusová, PaedDr. Dana Mašlejová, Mgr. Ladislav Mókus, Mgr. Ondrej Podkonický

Last change: 25.05.2016

Approved by: prof. RNDr. Pavel Veis, CSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTFDF/2-FOL-235/00	Theory of Radiation

Educational activities:
Type of activities: lecture
Number of hours:
per week: 2 **per level/semester:** 28
Form of the course: on-site learning

Number of credits: 3

Recommended semester: 3.

Educational level: II.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Radiation of the linear antenna, multipole expansion of retarded potentials in the quasistatic and wave region, radiation friction, consistency of classical electrodynamics, the natural width of spectral lines, scattering of electromagnetic waves.

Recommended literature:
L.D.Landau, E.M.Lifschitz: The Classical Theory of Fields, Volume 2
J.D.Jackson: Classical electrodynamics, 3.ed.,1998
V.V.Batygin, I.N.Toptygin: Problems in Electrodynamics, 2.ed., 1978.
M.M.Bredov, V.V.Rumiancev, I.N.Toptygin: Klassičeskaja elektrodinamika, 1985

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 3

A	B	C	D	E	FX
0,0	33,33	0,0	33,33	0,0	33,33

Lecturers: RNDr. Eduard Masár, PhD.

Last change: 02.06.2015

Approved by: prof. RNDr. Pavel Veis, CSc.