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COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KAFZM/3-FFP-203/15	**Course title:** Bio-medical Applications of Plasmas and Radiation
Educational activities: **Type of activities:** lecture **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning, distance learning	
Number of credits: 10	
Recommended semester: 2.	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	

Past grade distribution
Total number of evaluated students: 1

ABS	NEABS
100,0	0,0

Lecturers: doc. RNDr. Zdenko Machala, PhD.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/3-MXX-101/15	Course of English for PhD Studies (1)

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

Number of credits: 5

Recommended semester: 1.

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 118

A	ABS	B	C	D	E	FX	NEABS
71,19	24,58	0,85	0,0	0,0	3,39	0,0	0,0

Lecturers: PhDr. Alena Zemanová

Last change: 22.02.2019

Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJP/3-MXX-102/15	Course of English for PhD Studies (1)

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

Number of credits: 5

Recommended semester: 2.

Educational level: III.

Prerequisites: FMFI.KJP/3-MXX-101/15 - Course of English for PhD Studies (1)

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 119

A	ABS	B	C	D	E	FX	NEABS
73,95	19,33	0,0	0,0	0,0	0,0	0,0	6,72

Lecturers: PhDr. Alena Zemanová

Last change: 22.02.2019

Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-806/10	**Course title:** Creation of Teaching Texts and Aids
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 5 **per level/semester:** 70 **Form of the course:** on-site learning	
Number of credits: 6	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-404/15	**Course title:** Department Seminar in the Summer Semester
Educational activities: **Type of activities:** seminar **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning	
Number of credits: 5	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers: prof. RNDr. Tibor Hianik, DrSc.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-203/15	**Course title:** Department Seminar in the Winter Semester
Educational activities: **Type of activities:** seminar **Number of hours:** **per week:** 2 **per level/semester:** 28 **Form of the course:** on-site learning	
Number of credits: 5	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 11	

ABS	NEABS
100,0	0,0

Lecturers: prof. RNDr. Tibor Hianik, DrSc.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-709/10	**Course title:** Development of Novel Software Product Linked with PhD Project
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 20	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers:	
Last change: 02.06.2015	
Approved by:	

STATE EXAM DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-990/15	**Course title:** Dissertation Thesis Defense
Number of credits: 30	
Recommended semester: 7., 8..	
Educational level: III.	
State exam syllabus:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJFB/3-FBF-004/00	Effect of Light on Living Organisms

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: 10

Recommended semester: 1.

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Solar radiation and artificial light sources. Reflection, scattering and absorption of light radiation by components of living organisms. Intrinsic chromophores and fluorophores. Phototherapy, Photodiagnostics, Photosterilization, Extrinsic chromophores and fluorophores in therapy and diagnostics.

Recommended literature:
B. Birks (Ed.): Organic Molecular Photophysics, Arrowsmith, Bristol, 1973
J. R. Lakowicz: Principles of Fluorescence Spectroscopy, Plenum Press, New York and London, 1983 // ruský preklad: Osnovy fluorescentnoj spektroskopii, Mir, Moskva, 1986
G. Britton: The Biochemistry of Natural Pigments, Cambridge University Press, Cambridge, 1983
Ľ. Lapčík, P. Pelikán, M. Čepan: Fotochemické procesy, Alfa, Bratislava, 1989
H. Berlien, G. Muller (Eds.): Angewandte Lasermedizin, Ecomed, Landsberg, 1989 // ruský preklad: Prikladnaja Lasernaja medicina, Interekspert, Moskva, 1997
R. J. H. Clark, R. E. Hester: Biomedical Aplications of Spectroscopy, Wiley, New York,1996
J.M. Hollas: Modern Spectroscopy, Wiley, New York, 2004
R. Kraayenhof, A.J.W.G.visser, H.C. Gerritsen (eds.): Fluorescence Spectroscopy, Imaging and Probes, Springer, Berlin, 2002
UV-VIS Spectroscopy and its Applications, Springer, Berlin, 1992

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 3

ABS	NEABS
100,0	0,0

Lecturers: prof. RNDr. Libuša Šikurová, CSc.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJFB/3-FBF-003/00	Experimental Methods of Biophysics

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: 10

Recommended semester: 1.

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Scattering and diffraction of X-ray, electrons and neutrons (Symmetry of crystals, cylindrical and helical objects, symmetry of viruses. Determination of the structure of crystals, problem of phase. Determination of the structure of amorphous substances and partially oriented systems. Preparation of samples for measurement. Experimental set up, available sources of synchrotron and neutron radiation)
Magnetic resonance methods (Magnetic resonance in a condensed matter. Nuclear magnetic resonance, electron paramagnetic resonance. Continual and pulse methods. Multiple resonance methods. Spectral methods, imagine methods and their combination. Preparation of samples and living objects for measurement. Experimental techniques, availability of experimental instruments).
Electron microscopy (Transmission and raster microscopy, electron optics. Preparation of samples for measurements. Reconstruction of the structure from micrographs. Experimental technique)
Ion microscopy. Light microscopy. (Transmission and reflection microscopy, in monochromatic, UV and IR light. Fluorescence, polarized and interference microscopy. Spatial reconstruction, stereology and analysis of imagine. Cytophotometry, historadiography and autoradiography).
Optical spectroscopy (Light sources, spectral analysis, detectors of optical radiation. Absorption spectroscopy and Raman spectroscopy. Chiotropic methods. Emission spectroscopy)
Light scattering (Statics and dynamics light scattering and its application for determination of the shape of biological objects)
Preparative and analytical methods (Extraction, aggregation, sedimentation, membrane mehods, chromatographic methods, electrophoresis, crystallization, liophilization, solubilization. Determination pf molecular weight.

Recommended literature:
V. Prosser et al.: Experimental methods of biophysics. Academia, Praha, 1989
Original and review articles from scientific journal of biophysical orientation according to selection of lecturer and according to actual interest of the students.

Languages necessary to complete the course:

Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers: prof. RNDr. Daniela Uhríková, CSc.	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-703/10	**Course title:** Home Project Co-researcher
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 10	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-101/10	**Course title:** Individual Study of Science and Research Resources (2)
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 10	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-104/10	**Course title:** Individual Study of Science and Research Resources (2)
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 10	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-702/10	**Course title:** International Project Co-researcher
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 15	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-708/10	**Course title:** Introduction of Novel Experimental Method Linked with PhD Project
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 20	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-012/15	**Course title:** Methods for Preparation and Implementation of Research Projects
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: 10	
Recommended semester: 4.	
Educational level: III.	
Prerequisites:	
Antirequisites: FMFI.KJFB/3-FBF-012/11	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers: doc. RNDr. Iveta Waczulíková, PhD.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJFB/3-FBF-001/00	Molecular Biophysics

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: 10

Recommended semester: 2.

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Biophysics of proteins and nucleic acids. Membrane structure and physical properties. Biophysics and thermodynamics of membranes, theory of phase transitions, mechanical properties of membranes. Mechanisms of ion transport. Signal transduction across membranes.

Recommended literature:
C.R. Cantor, P.R. Schimmel, Biophysical Chemistry, W.H. Freeman and Co., 1980
T. Hianik, V.I. Passechnik, Bilayer Lipid Membranes“ Structure and Mechanical Properties. Kluwer Acad. Publ. 1995
B. Alberts et al. Essential Cell Biology, Garland Publishing, 1998
M. Shinitzky (Ed.) Biomembranes, VCH, Vol.1 (1993), Vol. 2 (1994), Vol. 3 (1995)

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 0

ABS	NEABS
0,0	0,0

Lecturers: prof. RNDr. Tibor Hianik, DrSc.

Last change: 02.06.2015

Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-013/11	**Course title:** Molecular Design
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: 10	
Recommended semester: 4.	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers: doc. Ing. Vladimír Frecer, DrSc.
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-007/00	**Course title:** Molecular Dynamics of Biological 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: 10	
Recommended semester: 2.	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus: Molecular dynamics (MD), algorithms and methods in MD, interactions in molecular systems, their calculations, forcefield, analysis of results. Modeling of lipid bilayer, peptides, study of the mechanisms of interactions in lipid bilayer.	
Recommended literature: O. Becker et al. Computational Biochemistry and Biophysics, Dekker, 2000	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers: prof. RNDr. Ján Urban, DrSc.	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-701/10	**Course title:** Obtaining a University Grant
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 20 **per level/semester:** 280 **Form of the course:** on-site learning	
Number of credits: 20	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

STATE EXAM DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-950/15	**Course title:** Passing Dissertation Examination
Number of credits: 20	
Recommended semester: 3., 4..	
Educational level: III.	
State exam syllabus:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-403/10	**Course title:** Presentation at a Home Conference
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 5 **per level/semester:** 70 **Form of the course:** on-site learning	
Number of credits: 10	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers:	
Last change: 02.06.2015	
Approved by:	

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-401/15	**Course title:** Presentation at an International Conference
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 10 **per level/semester:** 140 **Form of the course:** on-site learning	
Number of credits: 20	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-302/15	**Course title:** Publication in a Reviewed Periodical or Reviewed Almanac
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 15 **per level/semester:** 210 **Form of the course:** on-site learning	
Number of credits: 30	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-301/15	**Course title:** Publication in an A-category Periodical
Educational activities: **Type of activities:** independent work **Number of hours:** **per week:** 20 **per level/semester:** 280 **Form of the course:** on-site learning	
Number of credits: 35	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-706/15	**Course title:** Response to a Publication
Educational activities: **Type of activities:** other **Number of hours:** **per week:** 3 **per level/semester:** 42 **Form of the course:** on-site learning	
Number of credits: 3	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-704/15	**Course title:** Response to a SCI-, WoK- or SCOPUS-registered Publication
Educational activities: **Type of activities:** other **Number of hours:** **per week:** 6 **per level/semester:** 84 **Form of the course:** on-site learning	
Number of credits: 4	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJFB/3-FBF-005/00	Selected Chapters from Human Biomechanics

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: 10

Recommended semester: 1.

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
Cell biomechanics, biomechanics of bones and muscles, elastic properties of body fluids and vascular system, breathing mechanics, mechanics of digestion tract, lungs, and cerebral tissue. Biomechanics of hearing and functions of ear. Applications of biomechanics in a medicine.

Recommended literature:
Vogel J. Biomechanics, Princeton, University Press, 2003.
Valenta J. Biomechanics, Academia and Kluwer Academic Publishers, 2002.
http://en.wikipedia.org/wiki/Biomechanics

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 2

ABS	NEABS
100,0	0,0

Lecturers: prof. RNDr. Melánia Babincová, DrSc.

Last change: 02.06.2015

Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-802/15	**Course title:** Teaching Practice in the Summer Semester
Educational activities: **Type of activities:** other **Number of hours:** **per week:** 8 **per level/semester:** 112 **Form of the course:** on-site learning	
Number of credits: 5	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	

ABS	NEABS
0,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-801/15	**Course title:** Teaching Practice in the Winter Semester
Educational activities: **Type of activities:** other **Number of hours:** **per week:** 8 **per level/semester:** 112 **Form of the course:** on-site learning	
Number of credits: 5	
Recommended semester:	
Educational level: III.	
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	

ABS	NEABS
100,0	0,0

Lecturers:
Last change: 02.06.2015
Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KJFB/3-FBF-002/00	Theoretical Methods of the Study the Molecular 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: 10

Recommended semester: 1.

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
The study of statical properties:
Quantum mechanic description of energetic and reactivity of molecules (HF, post HF and DFT methods, semi empirical methods, methods of molecular mechanics, combined methods).
Study of dynamical properties:
Methods of molecular dynamics, Monte Carlo methods, analysis of the results of simulations, methods of classical and quasi classical trajectories.

Recommended literature:
O.Becker et al. Computational Biochemistry and Biophysics, Dekker, 2000
A. Szabo N. S. Ostlund: Modern Quantum Chemistry: Introduction to Advanced Electronic Structure Theory
P.W. Atkins: Molecular Quantum Mechanics, Oxford Univ. Press, 1970

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 1

ABS	NEABS
100,0	0,0

Lecturers: prof. Ing. Pavel Mach, CSc., prof. RNDr. Ján Urban, DrSc.

Last change: 02.06.2015

Approved by:

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJFB/3-FBF-808/15	**Course title:** Writing Final Thesis Assessment Protocol
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: 4	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Course requirements:	
Learning outcomes:	
Class syllabus:	
Recommended literature:	
Languages necessary to complete the course:	
Notes:	
Past grade distribution Total number of evaluated students: 0	
ABS	NEABS
0,0	0,0
Lecturers:	
Last change: 02.06.2015	
Approved by:	