Course descriptions

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COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KJP/3-MXX-101/15	**Course title:** 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:

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: 50

A	B	C	D	E	FX
92,0	2,0	0,0	0,0	6,0	0,0

Lecturers: PhDr. Alena Zemanová

Last change: 22.02.2019

Approved by: prof. Ing. Roman Martoňák, DrSc.

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:

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: 55

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

Lecturers: PhDr. Alena Zemanová

Last change: 22.02.2019

Approved by: prof. Ing. Roman Martoňák, DrSc.

STATE EXAM DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KTF/3-FVM-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: prof. Ing. Roman Martoňák, DrSc.	

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-211/15	Exactly Solvable Models in Quantum Mechanics and Statistical Physics

Educational activities:
Type of activities: seminar
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:

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

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

Lecturers: RNDr. Ladislav Šamaj, DrSc.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-105/15	Individual Study of Research Resources (1)

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

Number of credits: 10

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: 21

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-106/15	Individual Study of Research Resources (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, 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: 17

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-107/15	Individual Study of Research Resources (3)

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

Number of credits: 10

Recommended semester: 3.

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: 20

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-108/15	Individual Study of Research Resources (4)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 4 **per level/semester:** 56
Form of the course: on-site learning, distance 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: 18

A	B	C	D	E	FX
94,44	0,0	0,0	5,56	0,0	0,0

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-204/15	Introduction to Quantum Processing of Information

Educational activities:
Type of activities: course
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:

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

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

Lecturers: prof. RNDr. Vladimír Bužek, DrSc., doc. Mgr. Mário Ziman, PhD.

Last change:

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-007/10	Mathematical Methods of Theoretical Physics

Educational activities:
Type of activities: lecture
Number of hours:
per week: 4 **per level/semester:** 56
Form of the course: on-site learning, distance 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: 16

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

Lecturers: doc. RNDr. Marián Fecko, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-210/15	Mathematical Structures of Quantum Theory

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

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

Lecturers: doc. Mgr. Mário Ziman, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

STATE EXAM DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KTF/3-FVM-950/15	**Course title:** Passing Dissertation Examination
Number of credits: 20	
Recommended semester: 3., 4..	
Educational level: III.	
State exam syllabus:	
Last change: 12.10.2016	
Approved by: prof. Ing. Roman Martoňák, DrSc.	

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-213/16	Quantization on Curved Backround and Hawking Radiation

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, distance 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: 2

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

Lecturers: Mgr. Petr Beneš, PhD.

Last change: 05.12.2016

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KEF/3-FKL-007/15	Quantum Simulations in Condensed Matter

Educational activities:
Type of activities: lecture / seminar
Number of hours:
per week: 2 / 2 **per level/semester:** 28 / 28
Form of the course: on-site learning, distance 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: 7

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

Lecturers: prof. Ing. Roman Martoňák, DrSc.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-209/15	Quantum Theory of Gravity

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: 3

Recommended semester:

Educational level: III.

Prerequisites:

Antirequisites: FMFI.KTFDF/2-FTF-222/00

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. Vladimír Balek, CSc.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KTF/3-FVM-004/15	**Course title:** Relativistic Quantum Field Theory
Educational activities: **Type of activities:** lecture **Number of hours:** **per week:** 4 **per level/semester:** 56 **Form of the course:** on-site learning, distance 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: 16

A	B	C	D	E	FX
87,5	12,5	0,0	0,0	0,0	0,0

Lecturers: prof. RNDr. Peter Prešnajder, DrSc., doc. RNDr. Tomáš Blažek, PhD.
Last change: 02.06.2015
Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-301/10	Research Work (1)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 10 **per level/semester:** 140
Form of the course: on-site learning, distance learning

Number of credits: 20

Recommended semester: 5.

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: 16

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-302/10	Research Work (2)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 12 **per level/semester:** 168
Form of the course: on-site learning, distance learning

Number of credits: 25

Recommended semester: 6.

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: 13

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-303/10	Research Work (3)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 12 **per level/semester:** 168
Form of the course: on-site learning, distance learning

Number of credits: 25

Recommended semester: 7.

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: 13

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-304/10	Research Work (4)

Educational activities:
Type of activities: independent work
Number of hours:
per week: 10 **per level/semester:** 140
Form of the course: on-site learning, distance learning

Number of credits: 20

Recommended semester: 8.

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: 9

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-207/15	Selected Non-Erratic Methods in the Quantum Field Theory

Educational activities:
Type of activities: seminar
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:

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

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

Lecturers: RNDr. Ľubomír Martinovič, CSc.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-208/15	Selected Topics in Mathematical Physics

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

Number of credits: 5

Recommended semester:

Educational level: III.

Prerequisites:

Antirequisites: FMFI.KTFDF/2-FTF-221/00

Course requirements:

Learning outcomes:

Class syllabus:

Recommended literature:

Languages necessary to complete the course:

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. RNDr. Pavel Bóna, CSc.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-212/15	Selected Topics in Quantum Theory of Information

Educational activities:
Type of activities: course
Number of hours:
per week: 3 **per level/semester:** 42
Form of the course: on-site learning, distance 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: 2

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

Lecturers: doc. Mgr. Mário Ziman, PhD., Mgr. Daniel Nagaj, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-801/10	Teaching Activities (1)

Educational activities:
Type of activities: other
Number of hours:
per week: 4 **per level/semester:** 56
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: 14

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-802/10	Teaching Activities (2)

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

Number of credits: 5

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: 14

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-803/10	Teaching Activities (3)

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

Number of credits: 5

Recommended semester: 3.

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: 15

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-804/10	Teaching Activities (4)

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

Number of credits: 5

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: 13

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-805/10	Teaching Activities (5)

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

Number of credits: 10

Recommended semester: 5.

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: 7

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-806/10	Teaching Activities (6)

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

Number of credits: 10

Recommended semester: 6.

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: 4

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-807/10	Teaching Activities (7)

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

Number of credits: 10

Recommended semester: 7.

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: 2

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

Lecturers: doc. RNDr. Tomáš Blažek, PhD.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava	
Faculty: Faculty of Mathematics, Physics and Informatics	
Course ID: FMFI.KEF/3-FKL-006/15	**Course title:** Theory of Condensed Matter
Educational activities: **Type of activities:** lecture / seminar **Number of hours:** **per week:** 2 / 2 **per level/semester:** 28 / 28 **Form of the course:** on-site learning, distance learning	
Number of credits: 10	
Recommended semester:	
Educational level: III.	
Prerequisites:	
Recommended prerequisites: 2-FTL-107 Structure and mechanical properties of solids AND 2-FTL-108 Electronic and optical properties of solids AND 2-FTL-205 Many body physics	
Course requirements: homeworks + oral exam A 90%, B 80%, C 70%, D 60%, E 50% Scale of assessment (preliminary/final): 55/45	
Learning outcomes: The students will become fluent in the language of the quantum field theory and its applications to condensed matter physics.	
Class syllabus: Linear response theory. Green's functions: relation to observables, formal properties. Perturbation theory and Feynman diagrams. Adiabatic continuity and renormalization group. Non-perturbative methods: variational methods and effective Hamiltonians. Formal results will be illustrated by examples from quantum magnetism, superconductivity, correlated electrons, and/or coupled electron-phonon problems, upon agreement with the students.	
Recommended literature: Condensed matter physics : Corrected printing / Michael P. Marder. New York : John Wiley, 2000 Principles of condensed matter physics / P. M. Chaikin, T. C. Lubensky. Cambridge : Cambridge University Press, 1995	
Languages necessary to complete the course: english	
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: doc. RNDr. Richard Hlubina, DrSc.

Last change: 18.10.2016

Approved by: prof. Ing. Roman Martoňák, DrSc.

COURSE DESCRIPTION

University: Comenius University in Bratislava

Faculty: Faculty of Mathematics, Physics and Informatics

Course ID:	**Course title:**
FMFI.KTF/3-FVM-002/00	Theory of Gravitation and Cosmology

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

Number of credits: 10

Recommended semester:

Educational level: III.

Prerequisites:

Course requirements:

Learning outcomes:

Class syllabus:
- spherically symmetric stars and black holes
- linearized gravitation, gravitational waves
- expanding Universe and cosmological models

Recommended literature:
L. D. Landau, E. M. Lifshitz: Teoria polia, Nauka, Moskva (1973) [English translation: Oxford, Pergamon Press (1975)]
Ch. W. Misner, K. S. Thorne, J. A. Wheeler: Gravitation, W. H. Freeman and Comp., San Francisco (1973)

Languages necessary to complete the course:

Notes:

Past grade distribution
Total number of evaluated students: 6

A	B	C	D	E	FX
83,33	0,0	16,67	0,0	0,0	0,0

Lecturers: doc. RNDr. Vladimír Balek, CSc.

Last change: 02.06.2015

Approved by: prof. Ing. Roman Martoňák, DrSc.