

Bachelor's Degree Programme

Physical Engineering

Specialization Physical Engineering of Materials

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination ⁽¹⁾	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination ⁽²⁾	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
History of Physics 1	02DEF1	Jex	2+0 z	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Introduction to Engineering	17UING	Frýbort, Haušild, Mušálek	2+1 kz	-	3	-
Language Courses ⁽³⁾	04.	KHVJ	-	-	-	-
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Fundamentals of Physical Measurements 1, 2	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Creation of Electronic Documents	14TED	Materna	0+2 z	-	2	-
Introduction to UNIX	12UNIXAP	Kuchařík	-	1+1 z	-	2
General Chemistry 1, 2 ⁽⁴⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3

(1) Examination in 01MANZ can be taken provided the assessment in 01MAN is obtained.

(2) Examination in 01LALZ can be taken provided the assessment in 01LAL is obtained.

(3) Enrollment in language courses follows the rules given separately.

(4) Enrollment in 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Physical Engineering

Specialization Physical Engineering of Materials

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Teoretická fyzika 1 ⁽¹⁾	02TEF1	Hrivnák, Novotný P.	2+2 z, zk	-	4	-
Engineering Mechanics	14TEM	Kunz	2+2 z, zk	-	4	-
Dynamics of Linear Systems	14DYLS	Kunz	-	1+1 z, zk	-	2
Electron Microscopy	14ELM	Karlík	-	2+0 kz	-	2
Language Courses ⁽²⁾	04..	KHVJ	-	-	-	-
Required optional courses ⁽³⁾						
Materials Characterization	14CHMA	Haušild, Tesař	2+1 kz	-	4	-
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Practicum in Materials	14PMA	Karlík, Tesař	-	0+2 kz	-	3
Social Sciences						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Experimental Physics	02EXF	Křížková-Gajdošová, Trzeciak	2+0 zk	-	2	-
Introduction to Probability 1, 2	01UP12	Krbálek, Vybíral	1+1 z, zk	1+1 z, zk	3	3
Seminar on Mathematical Physics	02SMF	Hlavatý	0+2 z	-	2	-
Basic Electronics 1, 2	12ZEL12	Pavel	2+1 z, zk	2+1 z, zk	3	3
Computer Algebra Systems	12PAS	Šiňor	1+1 z	-	2	-
Introduction to Scientific Computing	12UVP	Šiňor	-	1+1 z	-	2
Seminar on Solid State Physics	11SFIPL	Kalvoda	1+1 kz	-	2	-
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Enrollment in language courses follows the rules given separately.

(3) To obtain 6 credits at least is obligatory.

Bachelor's Degree Programme

Physical Engineering

Specialization Physical Engineering of Materials

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Equations of Mathematical Physics ⁽¹⁾	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Fundamentals of Solid State Physics	11ZFP	Kalvoda, Mihóková	2+0 zk	-	3	-
Bachelor Project 1, 2	14BPF12	Kalvoda, Kunz	0+5 z	0+10 z	5	10
Bachelor Seminar	11BSEM	Kalvoda, Havlíková	-	0+2 z	-	1
Quantum Physics	02KF	Jizba	2+1 z, zk	-	3	-
Probability and Statistics	01PRST	Hobza	3+1 z, zk	-	4	-
Elasticity 1	14EM1	Materna, Oliva	2+2 z, zk	-	5	-
Numerical Methods 2	01NME2	Beneš	-	2+0 kz	-	2
Metal Physics	14FKO	Čech, Karlík	-	4+2 z, zk	-	6
Practicum in Finite Elements Methods	14PMKOP	Materna	-	0+2 zk	-	3
Testing and Processing of Metals and Alloys	14ZZKOS	Lauschmann, Mušálek	-	2+2 z, zk	-	4
Language Courses ⁽²⁾	04...	KHVJ	-	-	-	-
Optional courses:						
Instrumentation and Measurement	11ELEA	Jiroušek	-	2+0 z, zk	-	2
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1
Structure of Solid State	11SPL	Kolenko, Kraus	2+2 z, zk	-	4	-
Applications of Group Theory in Solid State Physics	11APLG	Potůček	2+0 zk	-	2	-
Nanotechnology	12NT	Hulicius, Proška	2+0 zk	-	2	-
Programming in MATLAB	18PMTL	Kukal	0+4 kz	-	4	-
Fundamentals of Optics	12ZAOP	Kwiecien	2+0 z, zk	-	2	-

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) Enrollment in language courses follows the rules given separately.

Bachelor's Degree Programme

Physical Engineering

Specialization Plasma Physics and Thermonuclear Fusion

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination ⁽¹⁾	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination ⁽²⁾	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Introduction to Laser Technology	12ULTB	Jelínková, Němec, Šulc	-	2+1 kz	-	3
Seminar on Plasma Physics	02SFP	Svoboda	-	0+2 z	-	2
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 1	02DEF1	Jex	2+0 z	-	2	-
Discrete Mathematics 1, 2 ⁽⁴⁾	01DIM12	Masáková	2+0 z	2+0 z	2	2
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Fundamentals of Physical Measurements 1, 2 ⁽⁴⁾	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Introduction to Solid State Physics	11UFP	Kolenko	-	2+0 zk	-	3
Physical Seminar 1	02FYS1	Petrásek	0+2 z	-	2	-
Fundamentals of Algorithmization	18ZALG	Virus, Jarý	-	2+2 z, zk	-	4
General Chemistry 1, 2 ⁽⁵⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3
Introduction to Photonics and Nanostructures	12UFN	Kwiecien, Richter, Proška	-	2+1 kz	-	3

(1) Examination in 01MANZ can be taken provided the assessment in 01MAN is obtained.

(2) Examination in 01LALZ can be taken provided the assessment in 01LAL is obtained.

(3) Enrollment in language courses follows the rules given separately.

(4) The indicated courses can be scheduled simultaneously.

(5) Enrollment of 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Physical Engineering

Specialization Plasma Physics and Thermonuclear Fusion

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Theoretical Physics 1 ⁽¹⁾	02TEF1	Hrivnák, Novotný P.	2+2 z, zk	-	4	-
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Experimental Physics	02EXF	Křížková-Gajdošová, Trzeciak	2+0 zk	-	2	-
Laboratory of Plasma Diagnostics	02UPP	Brotánková, Svoboda	-	0+2 kz	-	3
Language Courses ⁽²⁾	04..	KHVJ	-	-	-	-
Social Sciences						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Theoretical Physics 2 ⁽³⁾	02TEF2	Hrivnák, Novotný P.	-	2+2 z, zk	-	4
Discrete Mathematics 3	01DIMA3	Dvořáková	2+0 zk	-	2	-
Introduction to Probability 1, 2	01UP12	Krbálek, Vybíral	1+1 z, zk	1+1 z, zk	3	3
Introduction to Elementary Particle Physics	02UFEC	Matas	2+0 z	-	2	-
Introduction to Curves and Surfaces 1	02UKP1	Hlavatý	-	1+1 z	-	2
Seminar on Mathematical Physics	02SMF	Hlavatý	0+2 z	-	2	-
Special Theory of Relativity	02STR	Břeň	-	2+0 zk	-	2
Basic Electronics 1, 2 ⁽⁴⁾	12ZEL12	Pavel	2+1 z, zk	2+1 z, zk	3	3
Selected Topics in Modern Physics ⁽⁴⁾	12VPMF	Pšikal	-	2+1 z	-	3
Programming in C++ 1, 2	18PRC12	Virus, Jarý	2+2 z	2+2 kz	4	4
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Enrollment in language courses follows the rules given separately.

(3) Examination in 02TEF2 can be taken only if 02ELMA and 02TEF1 are passed.

(4) The indicated courses can be scheduled simultaneously.

Bachelor's Degree Programme

Physical Engineering

Specialization Plasma Physics and Thermonuclear Fusion

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Equations of Mathematical Physics (1)	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Fundamentals of Solid State Physics	11ZFP	Kalvoda, Mihóková	2+0 zk	-	3	-
Bachelor Project 1, 2	02BPTF12	Svoboda	0+5 z	0+10 z	5	10
Bachelor Seminar	11BSEM	Kalvoda, Havlíková	-	0+2 z	-	1
Probability and Statistics	01PRST	Hobza	3+1 z, zk	-	4	-
Quantum Physics	02KF	Jizba, Petrásek	2+1 z, zk	-	3	-
Vacuum Technology	12VKT	Petráček, Švejkar	2+2 kz	-	4	-
Fundamentals of Electrodynamics	12ZELD	Šiňor	1+1 z, zk	-	2	-
Fundamentals of Nuclear Physics	02ZJFY	Wagner	3+2 z, zk	-	5	-
Introduction to Computational Physics 1	12UPF1	Kuchařík, Liska	1+1 z, zk	-	2	-
Introduction to Nuclear Fusion	02UFU	Brotánková, Ficker	-	2+2 z, zk	-	4
Principles of Plasma Physics	12ZFP	Limpouch, Jirka	-	3+1 z, zk	-	4
Power Engineering	17ENER	Novák, Tichý	-	2+0 zk	-	2
Language Courses (2)	04...	KHVJ	-	-	-	-
Optional courses:						
Introduction to Curves and Surfaces 2	02UKP2	Hlavatý	1+1 z	-	2	-
Transport Phenomena/Nonequilibrium Systems	02TJNS	Jex	-	2+0 kz	-	2
Atomic and Molecular Spectroscopy	02AMS	Civiš	2+2 z, zk	-	4	-
Basic Optical Laboratory	12ZPOP	Jančárek	-	0+4 kz	-	6
Basic Laser Technology Laboratory (3)	12ZPLT	Blažej	-	0+4 kz	-	6
Measurement and Data Processing	12ZMDT	Blažej, Procházka	1+1 z, zk	-	2	-
Engineering Mechanics	14TEM	Kunz	2+2 z, zk	-	4	-
Fundamentals of Ionizing-Radiation Metrology	16MEZB	Čechák, Novotný P.	2+1 z, zk	-	4	-
Fundamentals of Radiation Dosimetry 1, 2	16ZDOZ12	Trojek	2+2 z, zk	2+0 zk	4	2
Fundamentals of Electronics	17ZEL	Kropík	2+2 kz	-	3	-
Molecular Physics	12MOF	Michl, Proška	-	2+0 zk	-	2
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) Enrollment in language courses follows the rules given separately.

(3) Enrollment in 12ZPLT is possible only after passing 12ULTB.

Bachelor's Degree Programme

Physical Engineering

Specialization Solid State Engineering

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination ⁽¹⁾	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination ⁽²⁾	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
History of Physics 1	02DEF1	Jex	2+0 z	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Introduction to Solid State Physics	11UFP	Kolenko	-	2+0 zk	-	3
Language Courses ⁽³⁾	04.	KHVJ	-	-	-	-
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Fundamentals of Physical Measurements 1, 2	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Introduction to UNIX	12UNXAP	Kuchařík	-	1+1 z	-	2
General Chemistry 1, 2 ⁽⁴⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3
Introduction to Photonics and Nanostructures	12UFN	Kwiecien, Richter, Proška	-	2+1 kz	-	3
Fundamentals of GNU Plot	11GPL	Dráb	0+2 z	-	2	-
Basics of Algorithmization	18ZALG	Virus, Jarý	-	2+2 z, zk	-	4
Programming in Python 1	18PPY1	Klinkovský, Mojzeš	-	2 z	-	2

(1) Examination in 01MANZ can be taken provided the assessment in 01MAN is obtained.

(2) Examination in 01LALZ can be taken provided the assessment in 01LAL is obtained.

(3) Enrollment in language courses follows the rules given separately.

(4) Enrollment in 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Physical Engineering

Specialization Solid State Engineering

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Structure of Solid State	11SPLA	Kolenko, Kraus	2+2 z, zk	-	4	-
Seminar on Solid State Physics	11SFIPL	Kalvoda	1+1 kz	-	2	-
Theoretical Physics 1 ⁽¹⁾ , 2 ⁽²⁾	02TEF12	Hrivnák, Novotný P.	2+2 z, zk	2+2 z, zk	4	4
GNU Programming	11GNU	Dráb	-	2+2 kz	-	4
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Social Sciences						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Experimental Physics	02EXF	Křížková-Gajdošová, Trzeciak	2+0 zk	-	2	-
Introduction to Probability 1, 2	01UP12	Krbálek, Vybíral	1+1 z, zk	1+1 z, zk	3	3
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Seminar on Mathematical Physics	02SMF	Hlavatý	0+2 z	-	2	-
Basic Electronics 1	12ZEL1	Pavel	2+1 z, zk	-	3	-
Seminar on Computer Simulations	11SPS	Drahokoupil	-	0+2 z	-	2
Computer Algebra Systems	12PAS	Šiňor	1+1 z	-	2	-
Introduction to Scientific Computing	12UVP	Šiňor	-	1+1 z	-	2
Electron Microscopy	14ELM	Karlík	-	2+0 kz	-	2
Programování v Pythonu 2, 3	18PPY23	Klinkovský, Pecinovský	2 z	2 z	2	2
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Examination in 02TEF2 can be taken only if 02ELMA and 02TEF1 are passed.

(3) Enrollment in language courses follows the rules given separately.

Bachelor's Degree Programme

Physical Engineering

Specialization Solid State Engineering

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Equations of Mathematical Physics ⁽¹⁾	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Fundamentals of Solid State Physics	11ZFP	Kalvoda, Mihóková	2+0 zk	-	3	-
Bachelor Project 1, 2	11BPF12	Kalvoda	0+5 z	0+10 z	5	10
Bachelor Seminar	11BSEM	Kalvoda, Havlíková	-	0+2 z	-	1
Probability and Statistics	01PRST	Hobza	3+1 z, zk	-	4	-
Quantum Mechanics 1, 2	02KM12	Štefaňák	4+2 z, zk	4+2 z, zk	6	6
Diffraction Analysis of Solid State	11DAPL	Čapek, Ganev	2+0 zk	-	2	-
Practical Training in Solid State Physics	11CZF	Kučeráková	0+2 z	-	2	-
Applications of Group Theory in Solid State Physics	11APLG	Potůček	2+0 zk	-	2	-
Continuum in Solid State Physics	11KFPL	Seiner	-	2+0 zk	-	2
Solid State Physics – Applications and Analytical Methods	11MAPL	Kratochvílová	-	2+2 z, zk	-	4
Introduction to Condensed Matter Simulations	11ZSKL	Drahokoupil, Kalvoda	-	1+1 kz	-	2
Language Courses ⁽²⁾	04...	KHVJ	-	-	-	-
Optional courses:						
Linear Circuit Analysis	11ANEL	Jiroušek, Levinský	4+0 z, zk	-	4	-
Logical Circuits and Microprocessors	11MIK	Jiroušek, Levinský	-	4+0 z, zk	-	4
Structure and Function of Bio-Molecules	11SFBM	Koval	2+1 z, zk	-	3	-
Atomic and Molecular Spectroscopy	02AMS	Civiš	2+2 z, zk	-	4	-
Transport Phenomena/Nonequilibrium Systems	02TJNS	Jex	-	2+0 kz	-	2
Molecular Physics	12MOF	Michl, Proška	-	2+0 zk	-	2
Basic Optical Laboratory	12ZPOP	Jančárek	-	0+4 kz	-	6
Fundamentals of Optics	12ZAOP	Kwiecien	2+0 z, zk	-	2	-
Fundamentals of Photonic Structures	12ZFS	Čtyroký, Richter	-	2+0 z, zk	-	2
Nanotechnology	12NT	Hulicius, Proška	2+0 zk	-	2	-
Programming in MATLAB	18PMTL	Kukal	0+4 kz	-	4	-
Vacuum Technology	12VKT	Petráček, Švejkar	2+2 kz	-	4	-
Principles of Plasma Physics	12ZFP	Limpouch	-	3+1 z, zk	-	4
Functions of Complex Variable	01FKO	Šťovíček	-	2+1 z, zk	-	3
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) Enrollment in language courses follows the rules given separately.

Bachelor's Degree Programme

Nuclear and Particle Physics

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination ⁽¹⁾	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination ⁽²⁾	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
Fundamentals of Physical Measurements 1, 2	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 1	02DEF1	Jex, Myška	2+0 z	-	2	-
General Chemistry 1, 2 ⁽⁴⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Physical Seminar 1	02FYS1	Petrásek	0+2 z	-	2	-
Introduction to Engineering	17UING	Frýbort, Haušild, Mušálek	2+1 kz	-	3	-
Introduction to UNIX	12UNXAP	Kuchařík	-	1+1 z	-	2
Basics of Algorithmization	18ZALG	Virus, Jarý	-	2+2 z, zk	-	4

(1) Examination in 01MANZ can be taken provided the assessment in 01MAN is obtained.

(2) Examination in 01LALZ can be taken provided the assessment in 01LAL is obtained.

(3) Enrollment in language courses follows the rules given separately.

(4) Enrollment in 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Nuclear and Particle Physics

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Theoretical Physics 1 ⁽¹⁾ , 2 ⁽²⁾	02TEF12	Hrivnák, Novotný P.	2+2 z, zk	2+2 z, zk	4	4
Experimental Physics	02EXF	Křížková-Gajdošová, Trzeciak	2+0 zk	-	2	-
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Social Sciences⁽⁴⁾						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Introduction to Elementary Particle Physics	02UFEC	Matas	2+0 z	-	2	-
Introduction to Probability 1, 2	01UP12	Krbálek, Vybíral	1+1 z, zk	1+1 z, zk	3	3
Introduction to Curves and Surfaces 1	02UKP1	Hlavatý	-	1+1 z	-	2
Introduction to Quantum Theory	02UKT	Štefaňák	-	2+0 z	-	2
Special Theory of Relativity	02STR	Břeň	-	2+0 zk	-	2
Programming in C++ 1, 2	18PRC12	Jarý, Vírúš	2+2 z	2+2 kz	4	4
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Examination in 02TEF2 can be taken only if 02ELMA and 02TEF1 are passed.

(3) Enrollment in language courses follows the rules given separately.

Bachelor's Degree Programme

Nuclear and Particle Physics

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Subatomic Physics	02SF	Karpenko	4+2 z, zk	-	6	-
Quantum Mechanics 1, 2	02KM12	Štefaňák	4+2 z, zk	4+2 z, zk	6	6
Equations of Mathematical Physics ⁽¹⁾	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Detectors and Detection Principles 1, 2	02DPD12	Contreras, Rojas	2+0 zk	4+0 zk	2	4
Workshop 1 ⁽³⁾	02VS1	Bielčík	1 týden z	-	1	-
Bachelor Thesis 1, 2	02BPJC12	Bielčík	0+5 z	0+10 z	5	10
Subatomic Physics 2	02SF2	Óbertová	-	4+2 z, zk	-	6
Language Courses ⁽²⁾	04...	KHVJ	-	-	-	-
Optional courses:						
Probability and Statistics	01PRST	Hobza	3+1 z, zk	-	4	-
Numerical Methods 2	01NME2	Beneš	-	2+0 kz	-	2
Fundamentals of Electronics	17ZEL	Kropík	2+2 kz	-	3	-
Introduction to Curves and Surfaces 2	02UKP2	Hlavatý	1+1 z	-	2	-
Tools for Simulation and Data Analysis 1	02NSAD1	Hubáček	2+0 z	-	2	-
Simulations and Data Analysis Tools 2	02NSAD2	Hubáček	-	2+0 z	-	2
Introduction to the Standard Model of Microworld	02ZSM	Hubáček	-	2+0 zk	-	2
Seminar on Quark-Gluon Plasma 1, 2	02ROZ12	Bielčík, Bielčíková, Tomášik	2+0 z	2+0 z	2	2
Scientific and Technical Computing	12VTV	Procházka	-	1+1 z	-	2
Functions of Complex Variable	01FKO	Šťovíček	-	2+1 z, zk	-	3
Scientific Programming in Python	12PYTH	Váchal	-	0+2 z	-	2
Vacuum Technology	12VKT	Švejkar, Petráček	2+2 kz	-	4	-
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) Enrollment in language courses follows the rules given separately.

(3) The course is intended for students of this programme only.

Bachelor's Degree Programme

Physical Engineering

Specialization Laser Technology and Photonics

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination ⁽¹⁾	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination ⁽²⁾	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
History of Physics 1	02DEF1	Jex	2+0 z	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Required optional courses ⁽⁴⁾						
Introduction to Laser Technology	12ULTB	Jelínková, Němec, Šulc	-	2+1 kz	-	3
Introduction to Photonics and Nanostructures	12UFN	Kwiecien, Richter, Proška	-	2+1 kz	-	3
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Physical Seminar 1	02FYS1	Petrásek	0+2 z	-	2	-
Fundamentals of Physical Measurements 1, 2	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Creation of Electronic Documents	14TED	Materna	0+2 z	-	2	-
Introduction to UNIX	12UNXAP	Kuchařík	-	1+1 z	-	2
General Chemistry 1, 2 ⁽⁵⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3
Introduction to Solid State Physics	11UFP	Kolenko	-	2+0 zk	-	3
Fundamentals of Algorithmization	18ZALG	Virus, Jarý	-	2+2 z, zk	-	4

(1) Examination in 01MANZ can be taken provided the assessment in 01MAN is obtained.

(2) Examination in 01LALZ can be taken provided the assessment in 01LAL is obtained.

(3) Enrollment in language courses follows the rules given separately.

(4) At least one course is compulsory.

(5) Enrollment in 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Physical Engineering

Specialization Laser Technology and Photonics

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Theoretical Physics 1 ⁽¹⁾ , 2 ⁽²⁾	02TEF12	Hrivnák, Novotný P.	2+2 z, zk	2+2 z, zk	4	4
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Measurement and Data Processing	12ZMDT	Blažej, Procházka	1+1 z, zk	-	2	-
Laser Technology 1	12LTB1	Jelínková, Němec, Šulc	-	2+1 z, zk	-	3
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Social Sciences						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Introduction to Scientific Computing	12UVP	Šiňor	-	1+1 z	-	2
Introduction to Probability 1, 2	01UP12	Krbálek, Vybíral	1+1 z, zk	1+1 z, zk	3	3
Computer Algebra Systems	12PAS	Šiňor	1+1 z	-	2	-
Basic Electronics 1, 2	12ZEL12	Pavel	2+1 z, zk	2+1 z, zk	3	3
Microprocessors 1, 2	12MPR12	Čech	4+0 zk	2+0 zk	4	2
Microprocessor Practicum 1, 2	12MPP12	Vyhlídal	0+3 kz	0+3 kz	4	2
Electron Microscopy	14ELM	Karlík	-	2+0 kz	-	2
Programming in C++ 1, 2	18PRC12	Virus, Jarý	2+2 z	2+2 kz	4	4
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1
Selected Parts of Modern Physics	12VPMF	Pšikal	-	2+1 z	-	3
Scientific and Technical Calculation	12VTV	Procházka	-	1+1 z	-	2
Molecular Physics	12MOF	Michl, Proška	-	2+0 zk	-	2
Display of Physical Data	12ZFD	Blažej	1+1 kz	-	2	-

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Examination in 02TEF2 can be taken only if 02ELMA and 02TEF1 are passed.

(3) Enrollment in language courses follows the rules given separately.

Bachelor's Degree Programme

Physical Engineering

Specialization Laser Technology and Photonics

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Equations of Mathematical Physics ⁽¹⁾	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Fundamentals of Solid State Physics	11ZFP	Kalvoda, Mihóková	2+0 zk	-	3	-
Bachelor Project 1, 2	12BPFI12	Havlíková	0+5 z	0+10 z	5	10
Bachelor Seminar	11BSEM	Kalvoda, Havlíková	-	0+2 z	-	1
Quantum Mechanics 1	02KM1	Štefaňák	4+2 z, zk	-	6	-
Fundamentals of Electrodynamics	12ZELD	Šiňor	1+1 z, zk	-	2	-
Fundamentals of Optics	12ZAOP	Kwecien	2+0 z, zk	-	2	-
Laser Technology 2	12LTB2	Kubeček, Šulc, Jelínek	2+1 z, zk	-	3	-
Fundamentals of Photonic Structures	12ZFS	Čtyroký, Richter	-	2+0 z, zk	-	2
Basic Optical Laboratory	12ZPOP	Jančárek	-	0+4 kz	-	6
Basic Laser Technology Laboratory ⁽²⁾	12ZPLT	Blažej	-	0+4 kz	-	6
Language Courses ⁽³⁾	04...	KHVJ	-	-	-	-
Optional courses:						
Probability and Statistics	01PRST	Hobza	3+1 z, zk	-	4	-
Functions of Complex Variable	01FKO	Šťovíček	-	2+1 z, zk	-	3
Numerical Methods 2	01NME2	Beneš	-	2+0 kz	-	2
Introductory Practicum in Electronics 1, 2 ⁽⁴⁾	12EPR12	Procházka	0+2 kz	0+2 kz	3	3
Vacuum Technology	12VKT	Švejkar, Petráček	2+2 kz	-	4	-
Quantum Mechanics 2	02KM2	Štefaňák	-	4+2 z, zk	-	6
Nanotechnology	12NT	Hulicius, Proška	2+0 zk	-	2	-
Operating Systems	12OSY	Čech	3+0 zk	-	3	-
Regulation and Sensors	12RSEN	Vyhliđal	4 z, zk	-	4	-
High Frequency and Pulse Technology	12VFT	Pavel	-	2+0 z, zk	-	2
Laser Systems	12LAS	Kubeček	-	2+1 z, zk	-	3
Application of Lasers	12APL	Jančárek, Jelínková	2+0 z, zk	-	2	-
Principles of Plasma Physics	12ZFP	Limpouch, Jirka	-	3+1 z, zk	-	4
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) For enrollment in 12ZPLT by students of other specializations, 12ULTB or 12LTB1 is a prerequisite.

(3) Enrollment in language courses follows the rules given separately.

(4) For enrollment in 12EPR12, 12ZEL12 is a prerequisite.

Bachelor's Degree Programme

Physical Engineering

Specialization Computational Physics

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination ⁽¹⁾	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination ⁽²⁾	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
History of Physics 1	02DEF1	Jex	2+0 z	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Introduction to UNIX	12UNXAP	Kuchařík	-	1+1 z	-	2
Language Courses ⁽³⁾	04.	KHVJ	-	-	-	-
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Fundamentals of Physical Measurements 1, 2	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Creation of Electronic Documents	14TED	Materna	0+2 z	-	2	-
General Chemistry 1, 2 ⁽⁴⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3
Fundamentals of Algorithmization	18ZALG	Virus, Jarý	-	2+2 z, zk	-	4
Introduction to Laser Technology	12ULTB	Jelínková, Němec, Šulc	-	2+1 kz	-	3
Introduction to Photonics and Nanostructures	12UFN	Kwiecien, Richter, Proška	-	2+1 kz	-	3

(1) Examination in 01MANZ can be taken provided the assessment in 01MAN is obtained.

(2) Examination in 01LALZ can be taken the assessment in 01LAL is obtained.

(3) Enrollment in language courses follows the rules given separately.

(4) Enrollment in 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Physical Engineering

Specialization Computational Physics

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Theoretical Physics 1 ⁽¹⁾ , 2 ⁽²⁾	02TEF12	Hrivnák, Novotný P.	2+2 z, zk	2+2 z, zk	4	4
Computer Algebra Systems	12PAS	Šiňor	1+1 z	-	2	-
Measurement and Data Processing	12ZMDT	Blažej, Procházka	1+1 z, zk	-	2	-
Programming in C++ 1, 2	18PRC12	Jarý, Virius	2+2 z	2+2 kz	4	4
Introduction to Scientific Computing	12UVP	Šiňor	-	1+1 z	-	2
Selected Topics in Modern Physics	12VPMF	Pšikal	-	2+1 z	-	3
Language Courses ⁽³⁾	04..	KHVJ	-	-	-	-
Social Sciences						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Seminar on Mathematical Physics	02SMF	Hlavatý	0+2 z	-	2	-
Basic Electronics 1, 2	12ZEL12	Pavel	2+1 z, zk	2+1 z, zk	3	3
Software Seminar 1, 2 ⁽⁴⁾	01SOS12	Čulík	0+2 z	0+2 z	2	2
Introduction to Probability 1, 2	01UP12	Krbálek, Vybíral	1+1 z, zk	1+1 z, zk	3	3
Seminar on Solid State Physics	11SFIPL	Kalvoda	1+1 kz	-	2	-
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1
Scientific and Technical Calculation	12VTV	Procházka	-	1+1 z	-	2
Molecular Physics	12MOF	Michl, Proška	-	2+0 zk	-	2
Display of Physical Data	12ZFD	Blažej	1+1 kz	-	2	-

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Examination in 02TEF2 can be taken only if 02ELMA and 02TEF1 are passed.

(3) Enrollment in language courses follows the rules given separately.

(4) Contains fundamentals of JAVA.

Bachelor's Degree Programme

Physical Engineering

Specialization Computational Physics

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Equations of Mathematical Physics ⁽¹⁾	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Fundamentals of Solid State Physics	11ZFP	Kalvoda, Mihóková	2+0 zk	-	3	-
Bachelor Project 1, 2	12BPFI12	Havlíková	0+5 z	0+10 z	5	10
Bachelor Seminar	11BSEM	Kalvoda, Mika Havlíková	-	0+2 z	-	1
Quantum Mechanics 1	02KM1	Štefaňák	4+2 z, zk	-	6	-
Fundamentals of Electrodynamics	12ZELD	Šiňor	1+1 z, zk	-	2	-
Computer Algebra	12POAL	Liska, Šiňor	1+1 kz	-	2	-
Introduction to Computational Physics 1, 2	12UPF12	Kuchařík, Liska	1+1 z, zk	1+1 z, zk	2	2
Fundamentals of Optics	12ZAOP	Kwiecien	2+0 z, zk	-	2	-
Principles of Plasma Physics	12ZFP	Limpouch, Jirka	-	3+1 z, zk	-	4
Scientific Programming in Python	12PYTH	Váchal	-	0+2 z	-	2
Introduction to Continuum Dynamics	01DYKO	Fučík, Strachota	-	2+1 z, zk	-	3
Language Courses ⁽²⁾	04...	KHVJ	-	-	-	-
Optional courses:						
Administration of UNIX System	12AUX	Šiňor	-	2+0 kz	-	2
Nanotechnology	12NT	Hulicius, Proška	2+0 zk	-	2	-
Nuclear Physics B	02ZJFB	Wagner	3+0 kz	-	3	-
Programming in Java	18PJ	Virus	2+2 z, zk	-	5	-
LaTeX - Publication Instrument	01PSL	Ambrož	-	0+2 z	-	2
Fundamentals of Photonic Structures	12ZFS	Čtyroký, Richter	-	2+0 z, zk	-	2
Computer Graphics 1, 2	01PGR12	Strachota	1+1 z, zk	1+1 z, zk	2	2
Computer Networks 1, 2 ⁽³⁾	01SITE12	Minárik	1+1 z	1+1 z	2	2
Introduction to Computer Security 1	01ZPB1	Vokáč	-	1+1 z	-	2
Practical Classes of Programming	18PROP	Klinkovský	0+2 kz	-	3	-
Machine Learning in Julia	00FEL	Adam, Mácha	1+2 kz	-	3	-
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1
Quantum Mechanics 2	02KM2	Štefaňák	-	4+2 z, zk	-	6

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) Enrollment in language courses follows the rules given separately.

(3) Both parts must be enrolled.

Bachelor's Degree Programme

Quantum Technologies

1st year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus	01MAN	Strachota, Pelantová	4+4 z	-	4	-
Calculus 1, examination	01MANZ	Strachota, Pelantová	- zk	-	4	-
Linear Algebra 1	01LAL	Ambrož, Dvořáková	2+2 z	-	2	-
Linear Algebra 1, examination	01LALZ	Ambrož, Dvořáková	- zk	-	2	-
Mechanics	02MECH	Břeň, Yalcinkaya	4+2 z	-	4	-
Mechanics, examination	02MECHZ	Břeň, Yalcinkaya	- zk	-	2	-
History of Physics 1	02DEF1	Jex, Myška	2+0 z	-	2	-
Fundamentals of Programming	18ZPRO	Virus, Klinkovský, Petříčková, Jarý	4 z	-	4	-
Preparatory week	00PT	FJFI	1 týden z	-	2	-
Fundamentals of Physical Measurements 1, 2	02ZM12	Chaloupka, Škoda, Rojas	2+0 zk	0+4 kz	2	4
Calculus 2	01MAN2	Pelantová, Pošta	-	4+4 z, zk	-	8
Linear Algebra 2	01LAL2	Dvořáková, Ambrož	-	2+2 z, zk	-	4
Electricity and Magnetism	02ELMA	Chadzitaskos, Yalcinkaya	-	4+2 z, zk	-	6
Heat and Molecular Physics	02TER	Petrásek	-	2+2 z, zk	-	4
Language Courses ⁽¹⁾	04.	KHVJ	-	-	-	-
Optional courses:						
Minimum in Mathematics 1	00MAM1	Břeň	0+1 z	-	1	-
Minimum in Mathematics 2	00MAM2	Pošta	0+1 z	-	1	-
History of Physics 2	02DEF2	Jex, Myška	-	2+0 z	-	2
Physical Seminar 1	02FYS1	Petrásek	0+2 z	-	2	-
Introduction to Solid State Physics	11UFP	Kolenko	-	2+0 zk	-	3
Introduction to Photonics and Nanostructures	12UFN	Kwicien, Richter, Proška	-	2+1 kz	-	3
Introduction to UNIX	12UNXAP	Kuchařík	-	1+1 z	-	2
Creation of Electronic Documents	14TED	Materna	0+2 z	-	2	-
Introduction to Engineering	17UING	Frýbort, Haušild, Mušálek	2+1 kz	-	3	-
General Chemistry 1, 2 ⁽²⁾	15CH12	Distler	2+1 z	2+1 z, zk	3	3
Programming in Python 1	18PPY1	Klinkovský, Mojzeš	-	2 z	-	2

(1) Enrollment in language courses follows the rules given separately.

(2) Enrollment in 15CH2 is possible only after passing 15CH1.

Bachelor's Degree Programme

Quantum Technologies

2nd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Calculus B 3, 4	01ANB34	Krbálek, Kolář	4+4 z, zk	2+4 z, zk	8	6
Numerical Methods 1	12NME1	Váchal	-	2+2 z, zk	-	4
Waves, Optics and Atomic Physics	02VOAF	Novotný P., Schmidt	4+2 z, zk	-	6	-
Introduction to Laser Technology	12ULAT	Jelínková, Šulc	2 kz	-	2	-
Theoretical Physics 1 ⁽¹⁾ , 2 ⁽²⁾	02TEF12	Hrivnák, Novotný P.	2+2 z, zk	2+2 z, zk	4	4
Experimental Laboratory 1, 2	02PRA12	Bielčík, Rojas	0+4 kz	0+4 kz	6	6
Thermodynamics and Statistical Physics	02TSFA	Jex, Novotný J.	-	2+2 z, zk	-	4
Language Courses ⁽³⁾	04	KHVJ	-	-	-	-
Social Sciences						
Rhetoric	00RET	Vadillo	0+2 z	-	1	-
Optional courses:						
Special Theory of Relativity	02STR	Břeň	-	2+0 zk	-	2
Introduction to Elementary Particle Physics	02UFEC	Matas	2+0 z	-	2	-
Introduction to Quantum Theory	02UKT	Štefaňák	-	2+0 z	-	2
Experimental Physics	02EXF	Křížková-Gajdošová, Trzeciak	2+0 zk	-	2	-
Selected Topics in Modern Physics	12VPMF	Pšikal	-	2+1 z	-	3
Introduction to Scientific Computing	12UVP	Šiňor	-	1+1 z	-	2
Basic Electronics 1, 2	12ZEL12	Pavel	2+1 z, zk	2+1 z, zk	3	3
Programming in C++ 1, 2	18PRC12	Jarý, Víríus	2+2 z	2+2 kz	4	4
Programming in Python 2, 3	18PPY23	Klinkovský, Pecinovský	2 z	2 z	2	2
Neural networks 1	18NES1	Petříčková	-	2+2 kz	-	5
Seminar on Solid State Physics	11SFIPL	Kalvoda	1+1 kz	-	2	-
Physical Training 1, 2	TV-12	ČVUT	- z	- z	1	1
Scientific and Technical Calculation	12VTV	Procházka	-	1+1 z	-	2
Molecular Physics	12MOF	Michl, Proška	-	2+0 zk	-	2

(1) Examination in 02TEF1 can be taken only if 02MECHZ is passed.

(2) Examination in 02TEF2 can be taken only if 02ELMA and 02TEF1 are passed

(3) Enrollment in language courses follows the rules given separately.

Bachelor's Degree Programme

Quantum Technologies

3rd year

Course	code	lecturer	win. sem.	sum. sem.	cr	cr
Compulsory courses:						
Equations of Mathematical Physics ⁽¹⁾	01RMAF	Klika, Tušek	4+2 z, zk	-	7	-
Probability and Statistics	01PRST	Hobza	3+1 z, zk	-	4	-
Quantum Laboratory 1	11KPRA1	Kalvoda, Šulc	0+4 kz	-	4	-
Quantum Mechanics 1, 2	02KM12	Štefaňák	4+2 z, zk	4+2 z, zk	6	6
Fundamentals of Classical Optics and Electrodynamics	12KOE	Kwiecien, Richter, Šiňor	-	4+0 zk	-	4
Quantum Laboratory 2	02KPRA2	Čepila	-	0+4 kz	-	4
Bachelor Project 1, 2	02BPQT12	Hamrle, Štefaňák, Šulc	0+5 z	0+10 z	5	10
Language Courses ⁽¹⁾	04...	KHVJ	-	-	-	-
Optional courses:						
Tools for Simulations and Data Analysis 12	02NSAD12	Hubáček	2+0 z	2+0 z	2	2
Detectors and Detection Principles 1, 2	02DPD12	Contreras, Rojas	2+0 zk	4+0 zk	2	4
Functions of Complex Variable	01FKO	Šťovíček	-	2+1 z, zk	-	3
Vacuum Technology	12VKT	Švejkar, Petráček	2+2 kz	-	4	-
Scientific Programming in Python	12PYTH	Váchal	-	0+2 z	-	2
Scientific and Technical Computing	12VTV	Procházka	-	1+1 z	-	2
Fundamentals of Solid State Physics	11ZFP	Kalvoda, Mihóková	2+0 zk	-	3	-
Basic Laser Technology Laboratory	12ZPLT	Blažej	-	0+4 kz	-	6
Fundamentals of Photonic Structures	12ZFS	Čtyroký, Richter	-	2+0 z, zk	-	2
Laser Systems	12LAS	Kubeček	-	2+1 z, zk	-	3
Neural networks 2	18NES2	Petříčková	-	2+2 kz	-	5
Physical Training 3, 4	TV-34	ČVUT	- z	- z	1	1

(1) Examination in 01RMAF can be taken only if all courses in Calculus and Linear Algebra are passed.

(2) Enrollment in language courses follows the rules given separately.