Study plan

Name of study plan: Matematické inženýrství - Matematická informatika

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Mathematical Engineering

Type of study: Bachelor full-time

Required credits: 0

Elective courses credits: 180 Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses in the specialization

Minimal number of credits of the block: 0

The role of the block: PS

Code of the group: BSPMIMINF1

Name of the group: BS P_MIB MINF 1st year

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 15 courses

Credits in the group: 0

Note on the group: Podmínkou skládání zkoušky 01MANZ je získání zápočtu z 01MAN. Podmínkou skládání

	zkoušky 01LALZ je získání zápočtu z 01l	LAL.				
Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
02DEF1	History of Physics 1 Igor Jex Igor Jex (Gar.)	Z	2	2+0	Z	PS
01DIM1	Discrete Mathematics 1 Edita Pelantová, Zuzana Masáková, Lubomíra Dvo áková Lubomíra Dvo áková Zuzana Masáková (Gar.)	Z	2	2P+0C	Z	PS
01DIM2	Discrete Mathematics 2 Edita Pelantová, Zuzana Masáková Zuzana Masáková (Gar.)	Z	2	2P+0C	L	PS
02ELMA	Electricity and Magnetism Iskender Yalcinkaya, Josef Schmidt, Ji í Hrivnák, Goce Chadzitaskos, Jan Vysoký Jan Vysoký Josef Schmidt (Gar.)	Z,ZK	6	4+2	L	PS
01LAL	Linear Algebra 1 Lubomíra Dvo áková, Petr Ambrož Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	Z	2	2P+2C		PS
01LALZ	Linear Algebra 1, exam Lubomíra Dvo áková, Petr Ambrož Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	ZK	2	0P+0C		PS
01LAL2	Linear Algebra 2 Lubomíra Dvo áková, Petr Ambrož Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	Z,ZK	4	2P+2C		PS
01MAN	Calculus 1 Edita Pelantová, Pavel Strachota, Miroslav Kolá Pavel Strachota Pavel Strachota (Gar.)	Z	4	4+4		PS
01MANZ	Calculus 1, exam Edita Pelantová, Pavel Strachota, Miroslav Kolá Pavel Strachota Pavel Strachota (Gar.)	ZK	4	0P+0C		PS
01MAN2	Calculus 2 Edita Pelantová, Miroslav Kolá, Maksym Dreval Edita Pelantová Maksym Dreval (Gar.)	Z,ZK	8	4P+4C		PS
02MECH	Mechanics David Be Antonín Hoskovec David Be (Gar.)	Z	4	4+2	Z	PS
02MECHZ	Mechanics - Examination Iskender Yalcinkaya, Goce Chadzitaskos, Stanislav Skoupý, Petr Novotný, David Be, Filip Petrásek, Antonín Hoskovec Antonín Hoskovec David Be (Gar.)	ZK	2	-	Z	PS

00PT	Preparatory Week Petr Ambrož, Milan Krbálek Petr Ambrož Petr Ambrož (Gar.)	Z	2	týden	Z	PS
18ZALG	Basics of Algorithmization Jan Tomsa, Petr Pauš, Vladimír Jarý, František Vold ich, Miroslav Virius, František Gašpar, Zuzana Pet í ková Vladimír Jarý Miroslav Virius (Gar.)	Z,ZK	4	2+2	L	PS
18ZPRO	Basics of Programming Maksym Dreval, Jan Tomsa, Petr Pauš, Vladimír Jarý, František Vold ich, Miroslav Virius, Zuzana Pet í ková, Nichita Vatamaniuc, Jan Vondruška, Miroslav Virius Miroslav Virius (Gar.)	Z	4	4C	Z	PS

Characteristics of the courses of this group of Study Plan: Code=BSPMIMINF1 Name=BS P_MIB MINF 1st year

D2DEF1	History of Physics 1	Z	2
Physics and its pla	ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Gree	ek natural philosophers, Aristo	tle. Physics ir
Helenistic period, A	Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Ke	epler, Galileo, Huygens. The bi	rth of physics
as experimental so	cience. Newton and his work.		
D1DIM1	Discrete Mathematics 1	Z	2
he seminar is dev	voted to elementary number theory and applications. It includes individual problem solving.		
1DIM2	Discrete Mathematics 2	Z	2
he seminar is dev	voted to recurrence relations. It includes individual problem solving.	·	
2ELMA	Electricity and Magnetism	Z,ZK	6
Electric charge, Co	oulomb's law, electrostatic field, Gauss' law. Electric dipole, polarization. Conductors and dielectrics. Electric current ar	nd circuits, conductivity. Basics	of the relative
neory. Electrodyna	amic forces, magnetic field. Magnetic dipole, magnetics. Electromagnetic induction, RLC circuits. Electromagnetic wave	es, Maxwell equations.	
1LAL	Linear Algebra 1	Z	2
. Vector space. 2.	Linear dependence and independence. 3. Basis and dimension. 4. Subspaces of vector spaces. 5. Linear mappings. 6	6. Matrices of linear mappings.	7. Frobenius
neorem.			
)1LALZ	Linear Algebra 1, exam	ZK	2
1LAL2	Linear Algebra 2	Z,ZK	4
utline: 1. Inverse	matrix and operator. 2. Permutation and determinant. 3. Spectral theory (eigenvalue, eigenvector, diagonalization). 4. H	Hermitian and quadratic forms	. 5. Scalar
oddet and orthog	gonality. 6. Metric geometry. 7. Riesz theorem and adjoint operator. Outline of the exercises: 1. Methods for calculation		
	. Calculation of eigenvalues and eigenvectors. 4. Hermitian and quadratic forms. Canonical form. 5. Scalar product and		
omplements. 6. G	Geometry exercises and examples. 7. Adjoint operators.	orthogonality. Calculation of o	orthogonal
complements. 6. G	Geometry exercises and examples. 7. Adjoint operators. Calculus 1		
omplements. 6. G 01MAN Basic calculus (rea	Geometry exercises and examples. 7. Adjoint operators. Calculus 1 al analysis, functions of one real variable, differential calculus).	l orthogonality. Calculation of d	orthogonal 4
omplements. 6. G 01MAN basic calculus (rea 01MANZ	Geometry exercises and examples. 7. Adjoint operators. Calculus 1	orthogonality. Calculation of o	orthogonal
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Code of the group: BSPMIMINF2

Name of the group: BS P_MIB MINF 2nd year

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 10 courses

Credits in the group: 0 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
01TA	Algebra and Calculus in Applications Edita Pelantová, Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	ZK	2	2P+0C		PS
01DIFR	Differential Equations Michal Beneš Michal Beneš (Gar.)	Z,ZK	4	2P+2C	L	PS
01DIMA3	Discrete Mathematics 3 Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	ZK	2	2P+0C		PS
01LIP	Linear Programming Jan Volec Jan Volec Jan Volec (Gar.)	Z,ZK	3	2+1	Z	PS

01ANA3	Mathematical Analysis A 3 František Štampach, Radek Fu ík, Mat j Tušek František Štampach František Štampach (Gar.)	Z,ZK	9	4P+4C		PS
01ANA4	Mathematical Analysis A 4 František Štampach František Štampach (Gar.)	Z,ZK	9	4P+4C		PS
01NMA1	Numerical Mathematics 1 Tomáš Oberhuber Tomáš Oberhuber (Gar.)	ZK	4	4+0		PS
18PRC1	Programming in C++ 1 Vladimír Jarý, Miroslav Virius Miroslav Virius Miroslav Virius (Gar.)	Z	4	2+2	Z	PS
18PRC2	Programming in C++ 2 Vladimír Jarý, Miroslav Virius, Jakub Klinkovský Miroslav Virius Miroslav Virius (Gar.)	KZ	4	2+2	L	PS
02VOAF	Waves, Optics and Atomic Physics Josef Schmidt Jan Vysoký Ji í Tolar (Gar.)	Z,ZK	6	4+2	Z	PS

01TA	Algebra and Calculus in Applications	ZK	2
We illustrate metho	ods based on combination of (CONtinuous) calculus and discrete (disCRETE) structures, so calles co	oncrete mathematics. Theorems are motivated by	problems fro
informatics and the	ey are illustrated on problems from informatics.		
01DIFR	Differential Equations	Z,ZK	4
The course contain	ns introduction in the solution of ordinary differential equations. It contains a survey of equation type	s solvable analytically, basics of the existence the	ory, solution
linear types of equa	ations and introduction in the theory of boundary-value problems.		
01DIMA3	Discrete Mathematics 3	ZK	2
Students get to kno	ow problems and methods of their solving from various parts of discrete mathematics. The seminar	includes individual problem solving of ones own c	choice from the
given literature.			
01LIP	Linear Programming	Z,ZK	3
We study special p	problems about constrained extremal problems for multivariable functions, where the function is linear	ar and the constraints are given by linear equation	s and/or line
nequalities.			
01ANA3	Mathematical Analysis A 3	Z,ZK	9
Function sequence	es and series, introduction to topology and metric spaces, differential calculus of functions of severa	I variables.	
01ANA4	Mathematical Analysis A 4	Z,ZK	9
Inverse and implicit	t functions, constrained extrema, measure and integration theory, contour and surface integrals.		
01NMA1	Numerical Mathematics 1	ZK	4
The course introdu	ices to numerical methods for solving the basic problems arising from technical and research proble	ems. The accent is put on a good understanding o	f the root of
theoretical method:	S.		
18PRC1	Programming in C++ 1	Z	4
This course covers	s mainly the C programming language and non-object oriented features of the C++ language.	'	
18PRC2	Programming in C++ 2	KZ	4
This course covers	the object oriented programming and othesr advanced constructs in the C+;+ programming langua	age and the Standard Template Library.	
02VOAF	Waves, Optics and Atomic Physics	Z,ZK	6
Nave phenomena	in mechanics and electromagnetism: modes, standing and travelling waves, wave packets indispers	sive media. Wave optics: polarization, interference	, diffraction,
•	etrical optics. Introduction to quantum physics: black body radiation, quantum of energy, photoeffect,		
aduation stationar	y states and spectra of finite systems.	•	ū

Code of the group: BSPMIMINF3 Name of the group: BS P_MIB MINF 3rd year

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 12 courses

Credits in the group: 0 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
01ALGE	Algebra Zuzana Masáková Zuzana Masákov á Zuzana Masáková (Gar.)	Z,ZK	6	4+1		PS
01BPMI1	Bachelor project 1 Pavel Strachota, Václav K s, Libor Šnobl Pavel Strachota Pavel Strachota (Gar.)	Z	5	0P+5C		PS
01BPMI2	Bachelor project 2 Pavel Strachota, Libor Šnobl Pavel Strachota Pavel Strachota (Gar.)	Z	10	0P+10C		PS
01FKO	Functions of Complex Variable Severin Pošta, Pavel Š oví ek Pavel Š oví ek (Gar.)	Z,ZK	3	2+1		PS
01NMA2	Numerical Mathematics 2 Michal Beneš, Tomáš Oberhuber Tomáš Oberhuber Michal Beneš (Gar.)	Z,ZK	3	2P+1C	L	PS
01PGR1	Computer Graphics 1 Pavel Strachota Pavel Strachota (Gar.)	Z,ZK	2	1P+1C		PS
01PGR2	Computer Graphics 2 Pavel Strachota Pavel Strachota (Gar.)	Z,ZK	2	1P+1C		PS
01PRST	Probability and Statistics Tomáš Hobza Tomáš Hobza Tomáš Hobza (Gar.)	Z,ZK	4	3+1	Z	PS

18PJ	Programming in Java Miroslav Virius Miroslav Virius (Gar.)	Z,ZK	5	2P+2C	Z	PS
01BASE	Bachelor Seminar Pavel Strachota Pavel Strachota (Gar.)	Z	1	0P+2S		PS
01TKO	Theory of Codes Edita Pelantová, Jan Volec Edita Pelantová Jan Volec (Gar.)	ZK	2	2P+0C	L	PS
01ZAOS	Introduction to Operating Systems Zden k ulik Zden k ulik Zden k ulik (Gar.)	Z,ZK	2	2+0	L	PS

01ALGE	Algebra	Z,ZK	6
Firstly, the Peano ax	cions are treated in detail. Elements of the set theory cover only: equivalence and subvalence, the Cantorov-Bernstein theorer		e and equivaler
statements, definition	on of ordinals and cardinals. Further standard algebraic structures are addressed: semigroups, monoids, groups, rings, integra	al domains, principal	ideal domains,
fields, lattices. Indep	pendent chapters are devoted to divisibility in integral domains and to finite fields.		
01BPMI1	Bachelor project 1	Z	5
The bachelor projec	t is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by t	he project superviso	r during commo
regular meetings ar	d discussions.		
D1BPMI2	Bachelor project 2	Z	10
The bachelor projec	t is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by t	he project superviso	r during commo
egular meetings ar	d discussions.		
01FKO	Functions of Complex Variable	Z,ZK	3
he course starts from	om outlining the Jordan curve theorem and the Riemann-Stieltjes integral. Then basic results of complex analysis in one variable	e are explained in det	ail: the derivativ
of a complex function	n and the Cauchy-Riemann equations, holomorphic and analytic functions, the index of a point with respect to a closed curve,	Cauchy's integral th	eorem, Morera
heorem, roots of a l	nolomorphic function, analytic continuation, isolated singularities, the maximum modulus principle, Liouville's theorem, the Cauc	chy estimates, Laurer	nt series, residu
heorem.			
1NMA2	Numerical Mathematics 2	Z,ZK	3
he course is devote	ed to numerical solution of boundary-value problems and intial-boundary-value problems for ordinary and partial differential equ	ations. It explains me	thods convertir
oundary-value pro	blems to initial-value problems and finite-difference methods for elliptic, parabolic and first-order hyperbolic partial differential	equations.	
1PGR1	Computer Graphics 1	Z,ZK	2
he first part of the	two-semester "Computer Graphics" course is devoted to the specifics of digital display devices spanning from history up to the	state of the art techn	nologies. Furthe
a survey of fundame	ntal problems in 2D computer graphics is given together with their solutions. Focus is put on mathematical description of problems	and explanation of the	ne correspondin
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algorithms using kn	owledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications of	•	•
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he process of author	owledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications of	•	•
he process of authors 01PGR2	owledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications oring scientific documents and presentations.	f computer graphics	approaches in
he process of author) 1PGR2 The second part of	owledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications oping scientific documents and presentations. Computer Graphics 2	f computer graphics Z,ZK nenomenon ubiquitou	approaches in 2 us in computer
he process of authornal proces	owledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications ob oring scientific documents and presentations. Computer Graphics 2 the two-semester "Computer Graphics" course begins with a brief introduction to signal theory in the context of aliasing - a ph	Z,ZK nenomenon ubiquitouription of a 3D scene	approaches in 2 us in computer to its realistic
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Z,ZK

Name of the block: Compulsory elective courses

Introduction to Operating Systems

Minimal number of credits of the block: 0

The role of the block: PV

01ZAOS

Code of the group: BSSPOLVEDY

Name of the group: BS - Social Sciences

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 1 course

Introduction to structure of operating systems. Processes, thread, memory management. Synchronization of multi-threaded applications. Memory mapped files.

Credits in the group: 0

Only one of these courses is obligatory. Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
00EKOT	Economy in Technology Jana Ková ová	Z	1	2+0		PV
00ETV	Ethics of Science and Technology Jakub Hají ek Jana Ková ová	Z	1	0+2	L	PV
00RET	Rhetoric Jana Ková ová Jana Ková ová Jana Ková ová (Gar.)	Z	1	0+2		PV
00UPRA	Introduction to Law Martin ech Jana Ková ová	Z	1	0+2		PV
00UPSY	Introduction to Psychology Jakub Haii ek Jana Koyá oyá	Z	1	0+2		PV

Characteristics of the courses of this group of Study Plan: Code=BSSPOLVEDY Name=BS - Social Sciences

00EKOT	Economy in Technology	Z	1				
The course introduces t	he course introduces the basics of micro- and macroeconomics.						
00ETV	Ethics of Science and Technology	Z	1				
00RET	Rhetoric	Z	1				
The course is focused of	in the acquisition of speech and voice techniques and on the rules of correct pronounciation. The course is also devoted to the	ne composition of	public speech				
as well as to its nonverb	al aspects. Stylistics exercises, strategies for coping with stage-fright and a short excursion into the history of rhetoric are ar	integral part of the	ne course.				
00UPRA	Introduction to Law	Z	1				
00UPSY	Introduction to Psychology	Z	1				

Code of the group: BSPJAZYKYZK Name of the group: BS P languages Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 2 courses

Credits in the group: 0 Note on the group:

	Name of the course / Name of the group of courses					
Code	(in case of groups of courses the list of codes of their members)	Completion	Credits	Scope	Semester	Role
	Tutors, authors and guarantors (gar.)					
04XAMZK	English for Intermediate Students Examination Jana Ková ová, Slav na Brownová Jana Ková ová	ZK	4		Z	PV
04XAPZK	English for Advanced Students Examination Slav na Brownová, Darren Copeland Jana Ková ová	ZK	4		Z	PV
04XCESZZK	Czech for Foreigners Beginners - Examination Slav na Brownová Jana Ková ová Jana Ková ová (Gar.)	ZK	4		Z	PV
04XCESMZK	Czech for Intermediate Students Examination Jana Ková ová Jana Ková ová (Gar.)	ZK	4		Z	PV
04XCESPZK	Czech for Foreign Students - Advanced Examination Jana Ková ová Jana Ková ová Jana Ková ová (Gar.)	ZK	4		Z	PV
04XFMZK	French for Intermediate Students Examination V ra Šlechtová V ra Šlechtová (Gar.)	ZK	4		Z	PV
04XFPZK	French for Advanced Students Examination V ra Šlechtová V ra Šlechtová (Gar.)	ZK	4		Z	PV
04XFZZK	French for Beginners Examination V ra Šlechtová V ra Šlechtová V ra Šlechtová (Gar.)	ZK	3		L	PV
04XNMZK	German for Intermediate Students Examination Miloslava echová Miloslava echová (Gar.)	ZK	4		Z	PV
04XNPZK	German for Advanced Students Examination Miloslava echová Miloslava echová (Gar.)	ZK	4		Z	PV
04XRMZK	Russian for Intermediate Students Examination Zhanna Isaeva Zhanna Isaeva (Gar.)	ZK	4		Z	PV
04XRPZK	Russian for Advanced Students Examination Zhanna Isaeva Zhanna Isaeva Zhanna Isaeva (Gar.)	ZK	4		Z	PV
04XRZZK	Russian for Beginners Examination Zhanna Isaeva Zhanna Isaeva Zhanna Isaeva (Gar.)	ZK	3		L	PV
04XSMZK	Spanish for Intermediate Students Examination Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	ZK	4		Z	PV
04XSPZK	Spanish for Advanced Students Examination Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	ZK	4		Z	PV
04XSZZK	Spanish for Beginners Examination Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	ZK	3		L	PV

Characteristics of the courses of this group of Study Plan: Code=BSPJAZYKYZK Name=BS P languages

04XAMZK	English for Intermediate Students Examination	ZK	4
	is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two p	I	•
	ident is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three English of	•	,
4XAPZK	English for Advanced Students Examination	ZK	4
	is the examination as given by the study plan. The student is supposed to demonstrate mastering the AP3 syllabus and the abil		=
	rses. The examination consists of 2 parts - written (100 min) and oral (30 min) and includes also oral presentation of a topic from		_
4XCESZZK	Czech for Foreigners Beginners - Examination	ZK	4
	is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the	1	rses and can
	successful completion of all three courses. Detailed information is to be obtained from the teacher.	, ,	
4XCESMZK	Czech for Intermediate Students Examination	ZK	4
	is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the	1	and can only
	essful completion of the 3 courses. Detailed information is to be obtained from the teacher.		•
4XCESPZK	Czech for Foreign Students - Advanced Examination	ZK	4
	is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the		and can only
	essful completion of the 3 courses. Detailed information is to be obtained from the teacher.		•
4XFMZK	French for Intermediate Students Examination	ZK	4
	examination as given by the study programme. The whole French programme is ended with an examination covering the conte	1	examination
	and oral part and is organized according to Examination Instructions, a document available on the web.		
4XFPZK	French for Advanced Students Examination	ZK	4
	program is ended with an examination covering the contents of FP1-FP3. The examination consists of a written and/or an oral		according to
-	tions, a document available on the web. Assessment of the presentation is included into the examination grading.	·	J
4XFZZK	French for Beginners Examination	ZK	3
	examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The e		_
	ination. Its content covers the levels FZ1 - FZ5.		•
4XNMZK	German for Intermediate Students Examination	ZK	4
	is the examination as given by the study plan. The whole German for Intermediate Students Course is completed by an examin	1	o parts - writte
nd oral, which cove	er the courses NM1 - NM3. The oral part follows after passing the written part successfully and after obtaining the 04NM3 ass	essment. More detai	ed information
to be obtained fro	om the teacher.		
4XNPZK	German for Advanced Students Examination	ZK	4
ne course content	is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examina	ation consisting of tw	parts - writte
nd oral, which cove	er the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungra	aded assessment. M	ore detailed
formation is to be	obtained from the teacher.		
4XRMZK	Russian for Intermediate Students Examination	ZK	4
ne course content	is the examination as given by the study plan. The course is completed by taking a written and oral examination testing the kr	lowledge and skills a	cquired in RM
RM3. Students are	e eligible for the oral examination only after a prior pass in RM3 and a successful written examination. Students are given instr	uctions by the teach	er.
4XRPZK	Russian for Advanced Students Examination	ZK	4
ne course content	is the examination as given by the study plan. The course is completed by taking a written and oral examination testing the kr	lowledge and skills a	cquired in RP
RP3. Students are	eligible for the oral examination only after a prior pass in RP3 and a successful written examination. Students are given instru	ctions by the teache	r.
4XRZZK	Russian for Beginners Examination	ZK	3
ne course content	is the examination as given by the study plan. The course is completed by taking a written and oral examination testing the kr	lowledge and skills a	cquired in RZ
RZ5. Students are	eligible for the oral examination only after a prior pass in RZ5 and a successful written examination. Students are given instru	ctions by the teache	r.
4XSMZK	Spanish for Intermediate Students Examination	ZK	4
	is the examination as given by the study plan. SMZK examination consists of two parts - written and oral; to be eligible for the wr		ill have obtaine
on-graded assessi	ment for course SM3.Oral examination follows the written part.		
4XSPZK	Spanish for Advanced Students Examination	ZK	4
he course content	is the examination as given by the study plan. Examination SPZK consists of two parts, namely oral and written. The prerequisi		ral part is havir
	est. Examination content is based on syllabi of courses SP1, SP2, and SP3 or on an individual study plan of the student.		•
4XSZZK	Spanish for Beginners Examination	ZK	3
	is the examination as given by the study plan. Examination consists of two parts - written and oral. Student can register for oral	1	
	examination test.	•	

Name of the block: Elective courses Minimal number of credits of the block: 0

The role of the block: V

Code of the group: BSPMIMINFV

Name of the group: BS P_MIB MINF Optional courses

Requirement credits in the group: Requirement courses in the group:

Credits in the group: 0

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
02DEF2	History of Physics 2 Igor Jex Igor Jex (Gar.)	Z	2	2+0	L	V

01DEM	History of Mathematics Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	Z	1	0+2	L	V
01FANA1	Functional Analysis 1 Pavel Š oví ek Pavel Š oví ek (Gar.)	Z,ZK	5	2P+2C		V
01FAN2	Functional analysis 2 Pavel Š oví ek Pavel Š oví ek (Gar.)	Z,ZK	5	2P+2C		V
01JEPR	Simple Compilers Zden k ulík Zden k ulík Zden k ulík (Gar.)	Z	2	2	L	V
04AKS	English Conversation	Z	1	0+2	L	V
00MAM1	Jana Ková ová Jana Ková ová (Gar.) Essentials of High School Course 1	Z	1	0+1		V
00MAM2	David B e Essentials of High School Math Course 2	Z	1	0+1		V
18NES1	Lukáš Heriban Severin Pošta Lukáš Heriban (Gar.) Neural Networks 1	KZ	5	2P+2C	L	V
15CH1	Zuzana Pet í ková Zuzana Pet í ková General Chemistry 1	Z	3	2+1	Z	V
15CH2	Ond ej Holas, Petr Distler, Václav uba Petr Distler Petr Distler (Gar.) General Chemistry 2	Z,ZK	3	2+1	L	V
	Ond ej Holas, Petr Distler, Václav uba Petr Distler Petr Distler (Gar.) Computer Algebra					-
12POAL	Richard Liska Richard Liska Richard Liska (Gar.)	KZ	2	2	Z	V
01SITE1	Computer Networks 1 Miroslav Minárik Miroslav Minárik (Gar.)	Z	2	1+1	Z	V
01SITE2	Computer Networks 2 Miroslav Minárik Miroslav Minárik (Gar.)	Z	2	1+1	L	V
01PSR	Principles of Statistical Decision Making Václav K s Václav K s Václav K s (Gar.)	ZK	2	2+0	L	V
01PERI	Programming of Peripherals Devices Zden k ulik Zden k ulik (Gar.)	Z	2	2+0	Z	V
01PW	Windows Programming Zden k ulík Zden k ulík Zden k ulík (Gar.)	Z	2	2+0	Z	V
18PMTL	Programming in MATLAB Mat j Pokorný, Quang Van Tran, Jaromír Kukal Quang Van Tran Jaromír Kukal (Gar.)	KZ	4	4C	Z	V
18PW	Web environment and markup languages Pavel Eichler Dana Majerová Dana Majerová (Gar.)	KZ	2	2C	Z	V
01PSL	LaTeX - Publication Instrument Petr Ambrož Petr Ambrož (Gar.)	Z	2	0+2	L	V
01SAM	Seminar of Applied Mathematics Milan Krbálek Milan Krbálek Milan Krbálek (Gar.)	Z	2	0P+2S		V
01SSM1	Seminar of Contemporary Mathematics 1 Mat j Tušek Edita Pelantová (Gar.)	Z	2	0+2	Z	V
01SOS1	Software Seminar 1	Z	2	0+2	Z	V
01SOS2	Zden k ulík Zden k ulík Zden k ulík (Gar.) Software Seminar 2	Z	2	0+2	L	V
TV-1	Zden k ulík Zden k ulík Zden k ulík (Gar.) Physical Education	Z	1		Z	V
TV-2	Physical Education	Z	1		L	V
TV-3	Physical education	Z	1	0+2	Z	V
TV-4	Physical education	Z	1	0+2	L	V
02TEF1	Theoretical Physics 1	Z,ZK	4	2+2	Z	V
02TEF2	Petr Novotný Michal Jex Igor Jex (Gar.) Theoretical Physics 2 Theoretical Physics 2	Z,ZK	4	2+2	L	V
02TER	Petr Novotný, Filip Petrásek Josef Schmidt Petr Novotný (Gar.) Heat and Molecular Physics	Z,ZK	4	2+2	L	V
18INTA	Filip Petrásek Petr Novotný Petr Jizba (Gar.) Development of internet applications	KZ	4	2P+2C	L	V
18UQI	Jakub Klinkovský, Dana Majerová Dana Majerová Dana Majerová (Gar.) Introduction to quantum informatics	Z	3	2P	L	V
01USU	Aleš Wodecki Aleš Wodecki (Gar.) Introduction to Machine Learning					-
	Ji i Franc, Jan Flusser Ji i Franc Jan Flusser (Gar.) Introduction to UNIX	Z,ZK	4	2P+2C	_	V
12UNXAP	Milan Kucha ik Milan Kucha ik Milan Kucha ik (Gar.)	Z	2	1P+1C	L	V
12UVP	Introduction to Scientific Computing Milan Ši or Milan Ši or (Gar.)	Z	2	1P+1C	L	V
12ZEL1	Basic Electronics 1 Jaroslav Pavel Jaroslav Pavel (Gar.)	Z,ZK	3	2+1	Z	V
12ZEL2	Basic Electronics 2 Jaroslav Pavel Jaroslav Pavel (Gar.)	Z,ZK	3	2+1	L	V
01ZPB1	Introduction to Computer Security 1 Petr Voká Petr Voká Petr Voká (Gar.)	Z	2	1+1		V

Characteristics of the courses of this group of Study Plan: Code=BSPMIMINFV Name=BS P_MIB MINF Optional courses

02DEF2	History of Physics 2	Z	2
	al mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach. E	lectricity and mag	netism -
	n, electrodynamics and electromagnetism, Faraday and Maxwell. Thermodynamics and its laws, statistical physics, Boltzman		
1	Planck and Einstein. Discovery of radioaktivity, structure of atom, atomic nucleus, Rutherford and Bohr. The way to nuclear e	nergy, Elementary	/ particles,
	ncept of Nature and Universe of today.		
01DEM	History of Mathematics	Z	1
from the history of math	n of regular seminars where the members of the department of mathematics, but also invited speakers - specialists in the field	- give their talks o	on varoius topics
01FANA1	Functional Analysis 1	Z,ZK	5
01FAN2	·	Z,ZK	5
-	Functional analysis 2 entremental results from functional analysis including basic theorems of the theory of Banach spaces, closed of		-
<u> </u>	rs, spectral decomposition of bounded self-adjoint operators.	perators and the	i spectium,
01JEPR	Simple Compilers	Z	2
	/sis, code generation, simple optimizations, development environments, reflection.	_	2
04AKS	English Conversation	Z	1
	the student's communication skills acquired throughout their previous studies. It aims to improve all aspects of oral commun	_	nt will develop
· ·	bus communication situations and will master their communication strategy. They will also practise their listening skills in order		
_ ·	ent will be trained to express their ideas clearly and according to current English usage, and become a more confident speal		
00MAM1	Essentials of High School Course 1	Z	1
Students are introduced	to mathematical concepts and methods used in the introductory physics course.	'	
00MAM2	Essentials of High School Math Course 2	Z	1
Review of basics of high	•	'	
18NES1	Neural Networks 1	KZ	5
The aim of the course "I	Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and o	ther related mach	ine learning
techniques. The goal is	to teach students how to apply these models and methods to solve practical tasks.		
15CH1	General Chemistry 1	Z	3
The most important con	cepts, quantities and units used in chemistry are introduced in the course General Chemistry I. Their significance and practic	al use are illustra	ted by examples
solved in exercises.			
15CH2	General Chemistry 2	Z,ZK	3
	nuation of the course General chemistry I. The main attention is paid to general principles governing chemical processes. Usi		
1	ciples is not restricted only to chemical processes is documented. The significance and practical use of explained principles	are illustrated by	examples solved
in exercises.			
12POAL	Computer Algebra	KZ	2
1 ' '	asic objects (integers, rational and algebraic numbers, polynomials, rational functions, radicals, algebraic functions), arithmetic		
	tion, series summation, integration, ordinary differential equations, factorization, equations solving, quantifier elimination, subgraphies. Maple, detailed introduction and solving of practical examples, applications, everying of other systems (Axiam Mag	•	- 1
	graphics, Maple - detailed introduction and solving of practical examples, applications, overview of other systems (Axiom, Mac		
01SITE1	Computer Networks 1 ry and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Network	Z	2
	ry and present network (LAN, WAN, use the principles and technologies). Architecture of reference model 150/051. Network Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification a		
	etwork security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the si	· ·	-
01SITE2	Computer Networks 2	Z	2
	ry and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Network		
_	. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification a	•	
	etwork security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the si		
01PSR	Principles of Statistical Decision Making	ZK	2
	the statistical techniques for general decision procedures based on optimization of suitable stochastic criterion, their mutual		
properties and applicable	lity.		
01PERI	Programming of Peripherals Devices	Z	2
Memory organization, in	put and output ports, computer bus. Software libraries for computer peripherals, 3D graphic libraries. Principles of peripheral	s device drivers.	
01PW	Windows Programming	Z	2
Simple graphical progra	ms for MS Windows. Basic editing controls. File input and output. User defined components, dynamic type identification and	reflection.	
18PMTL	Programming in MATLAB	KZ	4
Introducing Matlab envir	onment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic and	alysis, statistics, a	lgorithmization
and geometric represen	tation of results.		
18PW	Web environment and markup languages	KZ	2
The course introduces s	tudents to fundamental principles and best practices for web design with respect to technical functionality, informational valu	e, readability and	usability.
01PSL	LaTeX - Publication Instrument	Z	2
The course is devoted to	the basics and facilities of computer typography, particularly to the system LaTeX		
01SAM	Seminar of Applied Mathematics	Z	2
1. Defectoscopy and acc	oustic emission. 2. Machine learning. 3. Traffic flow dynamics. Dynamics of crowd movement. 4. Digital image processing. 5. D	Dynamic pricing. 6	. Statistical
-	s, sociology and psychology. 7. Application of random matrix theory.		
01SSM1	Seminar of Contemporary Mathematics 1	Z	2
	different approach to those fields of mathematics that are included in curriculum but also to those that are not part of basic		
01SOS1	Software Seminar 1	Z	2
	mbly language programming for microprocessors Intel 80x86		
01SOS2	Software Seminar 2	Z	2
·	+ and Qt. Development of graphical user interface using C and C++ programming languages. Portable applications for Unix li	ke operating syst	ems, especially
	bility to Microsoft Windows.		
TV-1	Physical Education	Z	1
TV-2	Physical Education	Z	1
TV-3	Physical education	Z	1

Theoretical Physics 1 Ourse is an introduction to analytical mechanics. The students acquire knowledge of the basic concepts of the Lagrange and Hamiltonian formalisms as well as scription of dynamics (Newtons, Lagrange, Hamilton and Hamilton-Jacobi equations). The efficiency of these methods is illustrated on elementary examples em, the motion of a system of constrained mass points, and of a rigid body. Advanced parts of the course cover differential and integral principles of mechanist part of the course of classical theoretical physics (02TEF1, 02TEF2). Theoretical Physics 2 Trace and transformations in physics. Mechanics of point mass, rigid body and continuum. The special theory of relativity: relativistic mechanics and classical file works space-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic relativity. Heat and Molecular Physics TagK Heat and Molecular Physics TagK Theoretical Physics TagK Theore	s like the two-body nics. The subject is 4 deld theory in the radiation in the dip 4 e, ideal and real ga
scription of dynamics (Newtons, Lagrange, Hamilton and Hamilton-Jacobi equations). The efficiency of these methods is illustrated on elementary examples are, the motion of a system of constrained mass points, and of a rigid body. Advanced parts of the course cover differential and integral principles of mechanists part of the course of classical theoretical physics (02TEF1, 02TEF2). EF2 Theoretical Physics 2 Z,ZK and transformations in physics. Mechanics of point mass, rigid body and continuum. The special theory of relativity: relativistic mechanics and classical fiest waski space-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic rational expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, editor. ITA Development of internet applications KZ applications K	is like the two-body nics. The subject is 4 dield theory in the radiation in the dip 4 de, ideal and real gasquipartition theorem
em, the motion of a system of constrained mass points, and of a rigid body. Advanced parts of the course cover differential and integral principles of mechanist part of the course of classical theoretical physics (02TEF1, 02TEF2). EF2 Theoretical Physics 2 ors and transformations in physics. Mechanics of point mass, rigid body and continuum. The special theory of relativity: relativistic mechanics and classical fie waski space-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic raximation. ER Heat and Molecular Physics Z,ZK anal expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, editors provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	dics. The subject is 4 dield theory in the radiation in the dip 4 de, ideal and real gasquipartition theore
st part of the course of classical theoretical physics (02TEF1, 02TEF2). EF2 Theoretical Physics 2 Z,ZK or sand transformations in physics. Mechanics of point mass, rigid body and continuum. The special theory of relativity: relativistic mechanics and classical fie waski space-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic raximation. ER Heat and Molecular Physics Z,ZK or all expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle boy; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, editor. ITA Development of internet applications KZ or and the conduction in	4 ield theory in the radiation in the dip 4 e, ideal and real gasquipartition theore
Theoretical Physics 2 Transformations in physics. Mechanics of point mass, rigid body and continuum. The special theory of relativity: relativistic mechanics and classical field by the space-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic relativity. Theoretical Physics and transformations: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic relations. The special theory of relativity: relativistic mechanics and classical field in the space-time. Classical electric media, electromagnetic relations. The special theory of relativity:	ield theory in the radiation in the dip 4 e, ideal and real gasquipartition theore
ors and transformations in physics. Mechanics of point mass, rigid body and continuum. The special theory of relativity: relativistic mechanics and classical file physics pace-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic reviximation. ER Heat and Molecular Physics Z,ZK and expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle poy; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, editors provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	ield theory in the radiation in the dip 4 e, ideal and real gasquipartition theore
wwski space-time. Classical electrodynamics: Maxwell's equations in the Minkowski space-time, electromagnetic waves in dielectric media, electromagnetic revisitation. ER Heat and Molecular Physics Z,ZK and expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, editors provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	radiation in the dip 4 e, ideal and real gar
ER Heat and Molecular Physics Z,ZK nal expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, ed TA Development of internet applications KZ ectures provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	4 e, ideal and real ga equipartition theore
Heat and Molecular Physics Z,ZK nal expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, ed TA Development of internet applications KZ ectures provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	e, ideal and real ga
nal expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, expectively. TA Development of internet applications KZ Capacitation KZ	e, ideal and real ga
nal expansion of materials, heat transfer; stationary and non-stationary heat conduction, heat transfer and penetration; 1st and 2nd thermodynamic principle by; non-chemical systems: dielectric and magnetic materials; Maxwell relations and thermodynamic potentials; kinetic theory: Maxwell's velocity distribution, expectively. TA Development of internet applications KZ Capacitation KZ	equipartition theore
ITA Development of internet applications KZ ectures provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	
ectures provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	1
ectures provide an overview of modern technologies for the development of web applications. Students will learn basic web languages and concepts (HTML,	1 4
	., URL, etc.) and th
ented primarily towards backend technologies and using the Python languages, but covers also frontend frameworks and JavaScript.	
QI Introduction to quantum informatics Z	3
tum information has been on the rise for years. In this course, we explore the basics of quantum information theory with a strong emphasis on quantum com	nputing. We discus
of the most important quantum principles that lead to the so called quantum advantage and discuss many important quantum algorithms with the requisite a	amount of theoreti
pinning.	
SU Introduction to Machine Learning Z,ZK	4
im of this course is to provide a broad introduction to machine learning, data mining and statistical image recognition. Main attention is paid to the basic meth	hods of learning v
acher, cluster analysis and dimensionality reduction. The lectures and theory explanation is accompanied by examples of experiments and practical applicat	itions. Exercises u
n and run in computer labs with emphasis on the implementation and use of machine learning algorithms applied to real data from practical problems.	
NXAP Introduction to UNIX Z	2
outer and operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interface. Hardware	e and software.
ples of operating systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with files. Te	ext editors: vi, ema
nand interpreter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard tools. Graphi	nical user interface
dows. Computer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a computer. Networks.	work services:
vare sharing, mail, scp, etc. Network applications	
VP Introduction to Scientific Computing Z	2
ically oriented Introduction to scientific computing. Constituent part of the course is realized in computer classroom. Students get acquinted with some basic t	tools fort scientific
echnicval computing, data analysis, data visualisation and algorithm development.	
EL1 Basic Electronics 1 Z,ZK	3
ubject provides primary knowledge of circuit theory concerning principles of electronic circuits in both stationary and harmonic stable state. Circuit analysis r	methods for linear
asject promote primary and marge of should mary contourning primarples of should introduce in sour classiciary and narmonic static static. Offcut analysis in	
ts include symbolic and complex method are explained. Proper circuit analysis is also lectured. The subject's final part deals with transient effects inside linear	
	ar circuits.

Z

2

Code of the group: BSPJAZYKYZAP Name of the group: BS P jazyky zap Requirement credits in the group: Requirement courses in the group:

Introduction to Computer Security 1

Credits in the group: 0

01ZPB1

note on the gro	Jup.					
Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
04XAM1	English for Intermediate Students M1 Jana Ková ová	Z	2	0+2	Z	V
04XAM2	English for Intermediate Students M2 Jana Ková ová	Z	2	0+2	L	V
04XAM3	English for Intermediate Students M3 Jana Ková ová	Z	2	0+2	Z	V
04XAP1	English for Advanced Students P1 Jana Ková ová	Z	2	0+2	Z	V
04XAP2	English for Advanced Students P2 Jana Ková ová	Z	2	0+2	L	V
04XAP3	English for Advanced Students P3 Jana Ková ová	Z	2	0+2	Z	V
04XCESZ1	Czech for Foreigners - Beginners 1 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	Z	V
04XCESZ2	Czech for Foreigners - Beginners 2 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	L	V
04XCESZ3	Czech for Foreigners - Beginners 3 Jana Ková ová Jana Ková ová (Gar.)	Z	2	28	Z	V

04XCESM1	Czech for Foreigners - Intermediate 1 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	Z	V
04XCESM2	Czech for Foreigners - Intermediate 2 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	L	V
04XCESM3	Czech for Foreigners - Intermediate 3 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	Z	V
04XCESP1	Czech for Foreign Students - Advanced 1 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	Z	V
04XCESP2	Czech for Foreigners - Advanced 2 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	L	V
04XCESP3	Czech for Foreigners - Advanced 3 Jana Ková ová Jana Ková ová (Gar.)	Z	2	0+2	Z	V
04XFM1	French for Intermediate Students M1 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+2	Z	V
04XFM2	French for Intermediate Students M2 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+2	L	V
04XFM3	French for Intermediate Students M3 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+2	Z	V
04XFP1	French for Advanced Students P1	Z	2	0+2	Z	V
04XFP2	V ra Šlechtová V ra Šlechtová (Gar.) French for Advanced Students P2	Z	2	0+2	L	V
04XFP3	V ra Šlechtová V ra Šlechtová (Gar.) French for Advanded Students P3	Z	2	0+2	Z	V
04XFZ1	V ra Šlechtová V ra Šlechtová (Gar.) French for Beginners Z1 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	L	V
04XFZ2	French for Beginners Z2	Z	2	0+4	Z	V
04XFZ3	V ra Šlechtova V ra Šlechtová (Gar.) French for Beginners Z3	Z	2	0+4	L	V
04XFZ4	V ra Šlechtová V ra Šlechtová (Gar.) French for Beginners Z4 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	Z	V
04XFZ5	V ra Šlechtova V ra Šlechtova (Gar.) French for Beginners Z5	Z	2	0+4	L	V
04XNM2	V ra Šlechtová V ra Šlechtová (Gar.) German for Intermediate Students M2	Z	2	0+4	L	V
	Miloslava echová Miloslava echová (Gar.) German for Intermediate Students M1	Z	2	0+2	Z	
04XNM1	Miloslava echová Miloslava echová (Gar.) German for Intermediate Students M3		_		_	V
04XNM3	Miloslava echová Miloslava echová (Gar.) German for Advanced Students P1	Z	2	0+2	Z	V
04XNP1	Miloslava echová Miloslava echová (Gar.) German for Advanced Students P2	Z	2	0+2	Z .	V
04XNP2	Miloslava echová Miloslava echová (Gar.)	Z	2	0+2	L	V
04XNP3	German for Advanced Students P3 Miloslava echová Miloslava echová (Gar.)	Z	2	0+2	Z	V
04XRM1	Russian for Intermediate Students M1 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+2	Z	V
04XRM2	Russian for Intermediate Students M2 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+2	L	V
04XRM3	Russian for Intermediate Students M3 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+2	Z	V
04XRP1	Russian for Advanced Students P1 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+2	Z	V
04XRP2	Russian for Advanced Students P2 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+2	L	V
04XRP3	Russian for Advanced Students P3 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+2	Z	V
04XRZ1	Russian for Beginners Z1 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+4	L	V
04XRZ2	Russian for Beginners Z2 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+4	Z	V
04XRZ3	Russian for Beginners Z3 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+4	L	V
04XRZ4	Russian for Beginners Z4 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+4	Z	V
04XRZ5	Russian for Beginners Z5 Zhanna Isaeva Zhanna Isaeva (Gar.)	Z	2	0+4	L	V
04XSM1	Spanish for Intermediate Students M1 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+2	Z	V
04XSM2	Spanish for Intermediate Students M3 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+2	L	V
04XSM3	Spanish for Intermediate Students M3	Z	2	0+2	Z	V
04XSP1	Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.) Spanish for Advanced Students P1	Z	2	0+2	Z	V

04XSP2	Spanish for Advanced Students P2 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+2	L	V
04XSP3	Spanish for Advanced Students P3 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+2	Z	V
04XSZ1	Spanish for Beginners Z1 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4	L	V
04XSZ2	Spanish for Beginners Students Z2 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4	Z	V
04XSZ3	Spanish for Beginners Z3 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4	L	V
04XSZ4	Spanish for Beginners Z4 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4	Z	V
04XSZ5	Spanish for Beginners Z5 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4	L	V

U4XSZ4	Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)		2	0+4		V
04XSZ5	Spanish for Beginners Z5 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4 L		V
Characteristics of the	e courses of this group of Study Plan: Code=BSPJAZYKYZA	P Name=BS P	iazvky za	ın		
04XAM1 En The course is designed for s of Reference for Languages	nglish for Intermediate Students M1 students who have successfully completed the full secondary school English languate (CEFR). It provides an introduction into English for Specific and Academic Purpose a communication situations. Thus it covers topics related to the student's life and ne	ge course at least at es (ESP, EAP), i.e., i	t the A2 level	of the Comentals of voc	cabulary and s	style typical
	grammar issues used in EAP.					
The AM2 course expects the	nglish for Intermediate Students M2 e student to have completed the AM1 course. It develops their skills for work with so SP and EAP (e.g., definition, existence and classification of phenomena, object desc		_	-	-	
The course develops the skil understanding of profession	nglish for Intermediate Students M3 Ills that enable students to cope with features typical of professional style. Increasing the texts. Great emphasis is placed on distinguishing different levels of formal and in proceed includes studying abstracts and rules for writing them as well as basic rules for proceedings.	formal oral and writte	en communi	cation and t	heir appropria	ate Czech
04XAP1 En	nglish for Advanced Students P1				Z	2
of Reference for Languages grammar, and style typical o covers professional oral and	students who have successfully completed the full secondary school English langua - CEFR). It provides an introduction into English for Specific and Academic Purpos of professional oral and written communication situations (fundamentals of terms in written communication on topics related to the undergraduate's life and needs. It dev to revision of selected grammar topics is included.	es (ESP, EAP), i.e., mathematics and ph	into the fund nysics, definit	damentals o tions, graph	f vocabulary, f descriptions,	functions, etc). It also
The AP2 course is based or the students' needs it conce of descriptions, and, if possi The course extends the stud	nglish for Advanced Students P2 n AP1, thus extending the student's skills for working with subtechnical texts, and eventrates on chosen grammar topics, but mainly intends to develop understanding of ible, a case study). Increasing emphasis is placed on the undergraduate's independent's subtechnical vocabulary, and includes fundamental notions of chosen branch, cohesion and coherence in texts.	syntactic structures dent work with and re	and typical reading of ling	rhetorical fu guistically m	inctions (e.g., nore demandir	various type
The AP3 course is based on communication skills and ful also preparing a project on a	nglish for Advanced Students P3 AP2 and expects the student to work without any guidance with authentic profession nctions (e.g., expressing an opinion, agreement, and objections; taking part in discreasive or chosen topic and presenting it. The course places emphasis on distinguism.	ussion, note-taking;	summarizing	ı, writing an	abstract) and	l, if possible,
communication. 04XCESZ1 Cz	zech for Foreigners - Beginners 1				7	2
The course is designed for sacquire basic language and	students of the English programme. Students will become acquainted with the main speaking skills. The course focuses on pronunciation exercises, simple social phra is roughly lessons 1-3 of estina Express (Czech Express) by L. Holá and P. Bo ilon	ses, and oral and wr			nmar features)) and they w
The language and communi	zech for Foreigners - Beginners 2 ication competences acquired in CESZ1 are further developed. Students deepen th . The course covers roughly lessons 3-5 in Czech Express by L. Holá and P. Bo ilov	-	declension	and conjug	Z ation system a	2 and practise
04XCESZ3 Cz The course further develops fixing correct pronunciation a	zech for Foreigners - Beginners 3 s the language and communication competences acquired in the XCESZ1 and XCE and deepening grammar, features through practice, as well as introducing the CzecThey also practise understanding texts in terms of main ideas or looking for specific of the communication of th	SZ2 courses. The te h culture. Students a	are asked to	produce sin	nple texts and	they practis
	zech for Foreigners - Intermediate 1 rrect pronunciation, important morphological phenomena, prepositional phrases, and	d verb forms as well a	as on extend	ing the stude	Z ent´s vocabula	2 ary for variou
The course develops the top	zech for Foreigners - Intermediate 2 pics covered in CESM1 and is then focused on more difficult grammar phenomena.	It practices writing,	speaking, an	nd reading s	Z kills and trains	2 s the studen
04XCESM3 Cz	bbreviations, abbreviated words, and mathematical terms and formulas. zech for Foreigners - Intermediate 3 phological topics covered earlier and extends the student's knowledge of more diff	cult language pheno	omena. It is e	especially fo	Z cused on styli	2 istics and
lexicology and on developing	g the student's writing skills.					
The prerequisite of the cours It is focused partly on revision basics of functional style of	zech for Foreign Students - Advanced 1 se is very good knowledge of the Czech language, i.e., communicative competences on of standard language structures, but mainly on practising more complex gramma engineering and professional communication, both in spoken and written form. The h teachers and faculty administrators.	itical structures typic	al of the styl	e of science	e. Students ar	e taught the

includes communication with teachers and faculty administrators.

04XCESP2	Czech for Foreigners - Advanced 2	Z	2
This course extends the emphasis on individual	student's knowledge acquired in CESP1 and focuses on difficult language phenomena. It practises working with technical awork.	nd specialist texts	placing greater
04XCESP3	Czech for Foreigners - Advanced 3	Z	2
· ·	e student's knowledge from CESP2. It includes working with authentic specialist materials, their interpretation and presentation	on, and, finally, pre	esentation of the
	g skills necessary for professional communication are trained.	7	
04XFM1	French for Intermediate Students M1 M The objective of this three-semester course is to improve and further develop communication in the French language in bo	Z th written and oral	2 I form Students
	cate in social interaction and in academic, scientific and professional environment. They will be able to use the language to tra-		
	problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, sy	=	
•	study. The following topics are covered: University studies in our country and in France, writing of transactional letters, CV, per		
	ture and geography, Paris. Topics of specialization: mathematics, physics. Reading technical and popular science texts, work		
04XFM2 Course FM2 builds on F	French for Intermediate Students M2 M1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science	Z texts. features typi	2 ical for technical
	(passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French scie		
scientists, artists and ar	chitects. Description of an object, device, shapes, dimensions, material.		
04XFM3	French for Intermediate Students M3	Z	2
	n improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (a mpound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-cl		
	specialisation or to their interest and generally covers a technical /applied science topic. It is not a translation but a creative w		
and one's own knowled	ge/experienceLonger monologues on topics /situations set for the examination are prepared. Text structure, cohesion and c	coherence.	
04XFP1	French for Advanced Students P1	Z	2
	e objective of this three-semester course is to improve and further develop communication in the French language in both wr		
	in social interaction and in academic, scientific and work environment. They will be able to use the language to transmit gene The course builds on and further develops linguistic competence acquired at secondary school. Difficult grammar topics are re		
•	it, pronouns. The following specific topics are covered: University studies in our country and in France, writing of transactiona	-	- 1
request, answer to an a	elvert, environmental issues, success of French science and technology, chosen topics from French regional culture, Paris. Topi	cs of specializatio	n: mathematics,
	stry. Reading of technical and popular science texts, further work with these texts and interpretation.		
04XFP2	French for Advanced Students P2	Z	2
	ents, the course further develops language skills. Focus is put on reading popular science texts and on oral communication or communication are stressed (passive voice, nominalization, word formation).	n given topics. Fea	atures typical of
04XFP3	French for Advanded Students P3	Z	2
	n systemization and improvement of acquired linguistic competence, skills and knowledge, and their use for communication in	engineering envir	onment. Special
	ter texts (both from and into the language). Writing of a paper and making oral presentation in-class. The paper generally cov	ers a technical /ap	pplied science
topic. It is a creative wo	k compiled from 3 French sources. Preparation of several set topics for oral examination.		
047074		7	
	French for Beginners Z1	Z Socializing and in	2 professional life.
French for beginners Th		socializing and in p	orofessional life.
French for beginners Th The course includes Fre	French for Beginners Z1 e objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in s	socializing and in perfect to communicate	orofessional life. at elementary
French for beginners Th The course includes Fre level, actively using the (Francouzština pro za a	French for Beginners Z1 e objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in sench for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda te ky). It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions,	socializing and in p to communicate ová, French for be personal informa	orofessional life. at elementary ginners
French for beginners The course includes Fre level, actively using the (Francouzština pro za a giving the directions, sin	French for Beginners Z1 e objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in sench for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda text. It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions, apple instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronunciation.	socializing and in p to communicate ová, French for be personal informa	orofessional life. at elementary ginners tion, asking and
French for beginners The course includes Fre level, actively using the (Francouzština pro za a giving the directions, sin 04XFZ2	French for Beginners Z1 e objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in search for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda te ky). It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions, nople instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronunciat French for Beginners Z2	socializing and in particle to communicate by the communicate by the communicate personal information and grammar.	orofessional life. at elementary ginners tion, asking and
French for beginners The course includes Fre level, actively using the (Francouzština pro za a giving the directions, sir 04XFZ2 The course is linking up	French for Beginners Z1 e objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in sench for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda text. It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions, apple instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronunciation.	socializing and in page to communicate by french for beginning personal information and grammar. Z he textbook: Prave	orofessional life. at elementary ginners tion, asking and 2 da - Pravdová:
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French for beginners The course includes Fre level, actively using the (Francouzština pro za a giving the directions, sin 04XFZ2 The course is linking up French for Beginners . A thanking, travelling, may How does the machine	French for Beginners Z1 e objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in sent for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda te ky). It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions, apple instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronunciat French for Beginners Z2 with FZ1. Elementary linguistic knowledge and communication skills are expanded. The scope is given by lessons 8 - 13 of the diditional topics and skills are filled in from the textbook Espaces I, lesson 1 - 5 (introductions, invitation, welcoming, agreement of France, food, expression of will, wish, order, prohibition, pleasure). Correct pronunciation is practiced. Stress on oral communication work? A few expressions concerning the study. Name of University and Faculty.	socializing and in particular to communicate ová, French for beginner personal information and grammar. Z he textbook: Pravient - disagreemen unication. Specific	orofessional life. at elementary ginners tion, asking and 2 da - Pravdová: t, apology, topics covered:
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04XNM3 German for Intermediate Students M3	Z	2
The course introduces other more complex grammatical structures and their application in communication based on technical texts, such as the relative course introduces of the course introduced of		
the world at the beginning of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers a	٠,	
practise reading for information and reading aloud, and appropriate language for various purposes in oral and written communication. The course syst phenomena important for professional discourse (participles, relative clauses).	ematically revises o	tner grammatical
04XNP1 German for Advanced Students P1	Z	2
This course requires good grammar knowledge, extended general vocabulary, and good communication skills acquired at secondary school to be	1	1
course. The course is then focused on working with technical and scientific texts and practising reading techniques (skimming, scanning, reading techniques)		
more difficult grammar structures necessary for understanding a subtechnical text (passive voice, participles, participle structures) and it also focuses of	*	
i.e., telephoning.		
04XNP2 German for Advanced Students P2	Z	2
The course develops the students' skills in working with professional scientific texts (understanding, summarising, note-taking, interpreting) while extends the students of t		
vocabulary range. It introduces mathematical expressions and texts of nuclear power engineering. Increasing emphasis is placed on understanding a		I communication,
both written and oral (CV, letter of application, interview, scholarship), and more complex grammatical structures (i.e., subjunctive, indirect speech		
O4XNP3 German for Advanced Students P3 The course consists of 3 main parts (general communicative cituations, grammar and technical topics). Students will develop their vessibulary in a	Z	2
The course consists of 3 main parts (general communicative situations, grammar and technical topics). Students will develop their vocabulary in a (traffic problems and car accidents, accident report, filling in a form, complaints). Based on presentations and technical and subtechnical texts, the	-	
nuclear power engineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are us		
students are trained to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form.		-
practice to and from German.		
04XRM1 Russian for Intermediate Students M1	Z	2
The course is designed for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alpha		·
basic vocabulary for communication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, a		
they can use basic grammar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement of the source correspond approximately to the R73 source, but for helf of the time alletted in the timestable.	int level of the RZ2	course. The
contents and scope of the course correspond approximately to the RZ3 course, but for half of the time allotted in the timetable.	7	
04XRM2 Russian for Intermediate Students M2 The course is based on the RM1 course, its contents and scope correspond roughly to RZ4, however, for half of the time allotted in the timetable.	Z	2
04XRM3 Russian for Intermediate Students M3	Z	2
The course develops the knowledge and skills acquired in RM1 and RM2 and its contents and scope are roughly at the same level as those of RZ5,	_	_
in the timetable.	nowever, for riali of	the time anotted
04XRP1 Russian for Advanced Students P1	Z	2
The entrance requirement for the course is to achieve the B1 CEFR level. The objective of the course is revision of standard language structures,		I
structures, understanding the fundamentals of technical language and training writing skills.	J	J
04XRP2 Russian for Advanced Students P2	Z	2
The course is based on RP1. It expands grammatical structures important for understanding technical texts (verbal adjectives, participles, passive	s, verb aspects, spe	ecific syntactic
structures). Stress is put on independent oral and written communication.		
04XRP3 Russian for Advanced Students P3	Z	2
The course is based on RP2 and is mainly focused on working with technical and scientific texts (reading comprehension, oral and written paraph	-	
courses require good previous knowledge of general language at secondary level (listening, reading, correct communication in everyday situations these skills. Further study is aimed at professional and technical skills (reading technical literature according to the students' specialization, oral a	•	
develop their subtechnical vocabulary and practice guick and correct communication in professional situations. They will be able to both speak writ	•	,
technical topics.	o according and wi	ar comiderios cir
04XRZ1 Russian for Beginners Z1	Z	2
The course represents the first stage of the five-semester programme, its final aim being reading and understanding professional texts written in Ru	ussian. Thus it begir	s with mastering
the Russian alphabet (for both reading and writing skills) and fundamentals of grammar necessary for everyday communication (listening and spe	aking). Students wil	I be able to read
a short text with marked stress, understand its contents and summarize it.		
04XRZ2 Russian for Beginners Z2	Z	2
The second semester of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short		
able to communicate using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They we want to find a sentence of the property of the control o	ill also develop thei	r vocabulary and
master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in writing.		
04XRZ3 Russian for Beginners Z3 The course is based on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for tr.	Z	2 of roading skills
and listening) and introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will	_	_
understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.		
04XRZ4 Russian for Beginners Z4	Z	2
The course is based on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts w	1	I
words, oral communication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular v	erbs, differences in	verb patterns
from Czech, modality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time		
communication on more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., Siberia), learn	how to fill in
forms, look up the information from the timetable, learn about Russian holidays and typical meals.		
04XRZ5 Russian for Beginners Z5 The course expects the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. unders	Z	2
information from a specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts.		_
everyday topics. Studying grammar is based on professional and technical texts and only includes items typically used in professional communical		
passive voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, polite req		
04XSM1 Spanish for Intermediate Students M1	Z	2
The course is designed for students whose competence is at level B1 of CEFR, i.e. those who studied Spanish in the secondary school. The 3-ser	1	Į.
vocabulary and pays attention to further grammar topics (e.g., perifrasis verbales, futuro imperfecto, direct object and indirect object pronouns, neg	•	•
subjunctive), to written and oral communication on a given everyday or easy subtechnical topic, for which the students are trained by reading texts		Υ
O4XSM2 Spanish for Intermediate Students M3	Z	2
The course develops the students' knowledge from the previous course (SM1). Students are gradually acquainted with fundamentals of Spanish for able to work with specialized texts on the Internet	or specific purposes	s in order to be
able to work with specialized texts on the Internet.		

04XSM3	Spanish for Intermediate Students M3	Z	2
The course books are s	upplemented with additional subtechnical materials, so the students will be gradually acquainted with the peculiarities of acade	emic style. They w	ill be competent
enough to use the Inter-	net in Spanish and search for information of their specialization or field of interest. Students will use the information to write sl	nort articles and s	summaries. The
final part of the program	nne, general Spanish course based on course books, covers presentations and, finally, a written and oral examination.		
04XSP1	Spanish for Advanced Students P1	Z	2
Course concentrates or	more difficult grammar topics, revision of vocabulary, basics of Spanish for specific purposes as well as written communicati	on. Course prerec	quisites: level B2
of CEFR.			
04XSP2	Spanish for Advanced Students P2	Z	2
Course SP2 is the seco	nd part of the advanced Spanish course, extending Spanish for specific purposes topics. It comprises more grammar and sy	ntax and focuses	on independent
written communication.			
04XSP3	Spanish for Advanced Students P3	Z	2
Course SP3 is the final	part of the advanced Spanish course. It is based on texts chosen by the students according to their future specialization. It is t	ocused on writter	communication
based on what students	will need in their career.		
04XSZ1	Spanish for Beginners Z1	Z	2
Course SZ1 is the first s	tage of the five-semester programme of Spanish studies; during the first stage the students will master phonetics and fundam	ental grammar st	ructures and will
be able to communicate	at an elementary level on topics of everyday life. They will acquire and extend fundamental vocabulary of general Spanish are	nd will develop it.	
04XSZ2	Spanish for Beginners Students Z2	Z	2
Course SZ2 is based on	course SZ1, and expects students to develop and extend the knowledge and skills acquired so far. Grammar structures and le	xis will be choser	n so as to enable
them to understand sho	rt adapted written texts and speech. Attention is also paid to cultural differences between Spanish-speaking countries and otl	ners such as the	Czech Republic.
Realia of Spanish-speal	king countries are also included.		
04XSZ3	Spanish for Beginners Z3	Z	2
The course is based on	course SZ2, and develops the student's vocabulary and grammar structure. The course covers realia (history and culture) of	the Spanish-spe	aking countries,
mainly of Spain. It pays	attention to further grammar topics (pretérito perfecto, pretérito indefinido, pretérito imperfecto, the gerund and the imperative	e). It includes writt	ten and oral
communication on a giv	en general topic, for which the student is trained by reading texts or listening to them.		
04XSZ4	Spanish for Beginners Z4	Z	2
The course is based on	course SZ3. It develops the student's vocabulary and extends the knowledge of the culture and social customs of the Spanis	sh speaking coun	tries, mainly of
Spain. It pays attention	to further grammar topics (perifrasis verbales, futuro imperfecto, direct object and indirect object pronouns, negative form of t	he imperative, an	d subjunctive),
to written and oral comr	nunication on a given general or subtechnical topic, for which the student is trained by reading texts or listening to them.		
04XSZ5	Spanish for Beginners Z5	Z	2
The course books are s	upplemented with additional subtechnical materials, so the students will be gradually acquainted with peculiarities of Spanish	for specific purp	oses. In its final
part, the general Spanis	sh course based on the course book will end with presentations and, finally, a written and oral examination.		

List of courses of this pass:

Code	Name of the course	Completion	Credits
00EKOT	Economy in Technology	Z	1
	The course introduces the basics of micro- and macroeconomics.		
00ETV	Ethics of Science and Technology	Z	1
00MAM1	Essentials of High School Course 1	Z	1
	Students are introduced to mathematical concepts and methods used in the introductory physics course.		
00MAM2	Essentials of High School Math Course 2	Z	1
	Review of basics of high school mathematics.	'	'
00PT	Preparatory Week	Z	2
00RET	Rhetoric	Z	1
The course is focu	ised on the acquisition of speech and voice techniques and on the rules of correct pronounciation. The course is also devoted to the	composition of pul	olic speech
as well as to its	nonverbal aspects. Stylistics exercises, strategies for coping with stage-fright and a short excursion into the history of rhetoric are an	integral part of the	e course.
00UPRA	Introduction to Law	Z	1
00UPSY	Introduction to Psychology	Z	1
01ALGE	Algebra	Z,ZK	6
Firstly, the Peano a	xioms are treated in detail. Elements of the set theory cover only: equivalence and subvalence, the Cantorov-Bernstein theorem, the	axiom of choice an	d equivalent
statements, definit	ion of ordinals and cardinals. Further standard algebraic structures are addressed: semigroups, monoids, groups, rings, integral dom	ains, principal idea	al domains,
	fields, lattices. Independent chapters are devoted to divisibility in integral domains and to finite fields.		
01ANA3	Mathematical Analysis A 3	Z,ZK	9
	Function sequences and series, introduction to topology and metric spaces, differential calculus of functions of several variable	les.	
01ANA4	Mathematical Analysis A 4	Z,ZK	9
·	Inverse and implicit functions, constrained extrema, measure and integration theory, contour and surface integrals.	'	
01BASE	Bachelor Seminar	Z	1
In the first part of th	e seminar, students familiarize themselves with the general principles of publishing and presenting scientific work and the formal requ	irements for bache	elors degree
projects at the fact	ulty. The second part is designed as a practical training for the defense of the bachelors degree project. The students give oral preser	ntations of the curr	ent state of
the research results	s achieved during the work on their projects. Each presentation is followed by a discussion on scientific matters as well as on the possib	ilities of improving	the students
	performance.		
01BPMI1	Bachelor project 1	Z	5
The bachelor project	ct is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by the proj regular meetings and discussions.	ect supervisor dur	ing common

01BPMI2 The bachelor project	Bachelor project 2 ct is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by the programme regular meetings and discussions.	Z ject supervisor dur	10 ing common
01DEM The subject has the	History of Mathematics form of regular seminars where the members of the department of mathematics, but also invited speakers - specialists in the field - g	Z ive their talks on va	1 aroius topics
01DIFR The course contain	from the history of mathematics. Differential Equations s introduction in the solution of ordinary differential equations. It contains a survey of equation types solvable analytically, basics of the linear types of equations and introduction in the theory of boundary-value problems.	Z,ZK ne existence theory	4 y, solution of
01DIM1	Discrete Mathematics 1 The seminar is devoted to elementary number theory and applications. It includes individual problem solving.	Z	2
01DIM2	Discrete Mathematics 2 The seminar is devoted to recurrence relations. It includes individual problem solving.	Z	2
01DIMA3	Discrete Mathematics 3	ZK	2
Students get to kno	by problems and methods of their solving from various parts of discrete mathematics. The seminar includes individual problem solvin given literature.	g of ones own cho	pice from the
01FAN2	Functional analysis 2	Z,ZK	5
The course aims	to present selected fundamental results from functional analysis including basic theorems of the theory of Banach spaces, closed of Hilbert-Schmidt operators, spectral decomposition of bounded self-adjoint operators.	perators and their	spectrum,
01FANA1	Functional Analysis 1	Z,ZK	5
01FKO	Functions of Complex Variable	Z,ZK	3
	om outlining the Jordan curve theorem and the Riemann-Stieltjes integral. Then basic results of complex analysis in one variable are ex		
of a complex function	on and the Cauchy-Riemann equations, holomorphic and analytic functions, the index of a point with respect to a closed curve, Cauch holomorphic function, analytic continuation, isolated singularities, the maximum modulus principle, Liouville's theorem, the Cauchy est theorem.	hy's integral theore	em, Morera's
01JEPR	Simple Compilers Lexical and syntax analysis, code generation, simple optimizations, development environments, reflection.	Z	2
01LAL	Linear Algebra 1	Z	2
1. Vector space. 2	Linear dependence and independence. 3. Basis and dimension. 4. Subspaces of vector spaces. 5. Linear mappings. 6. Matrices of l theorem.	inear mappings. 7.	. Frobenius
01LAL2	Linear Algebra 2	Z,ZK	4
product and orthog	se matrix and operator. 2. Permutation and determinant. 3. Spectral theory (eigenvalue, eigenvector, diagonalization). 4. Hermitian an ponality. 6. Metric geometry. 7. Riesz theorem and adjoint operator. Outline of the exercises: 1. Methods for calculation of inverse matr 3. Calculation of eigenvalues and eigenvectors. 4. Hermitian and quadratic forms. Canonical form. 5. Scalar product and orthogonali complements. 6. Geometry exercises and examples. 7. Adjoint operators.	ices. 2. Methods o	f calculation
01LALZ	Linear Algebra 1, exam	ZK	2
01LIP	Linear Programming	Z,ZK	3
We study special p	roblems about constrained extremal problems for multivariable functions, where the function is linear and the constraints are given by inequalities.	linear equations a	and/or linear
01MAN	Calculus 1 Basic calculus (real analysis, functions of one real variable, differential calculus).	Z	4
01MAN2	Calculus 2	Z,ZK	8
	differential calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence, operations on series, absolute a power series, the Cauchy-Hadamard theorem, expansion of function into power series, summation of infinite series. 4. Theory of integ		-
Trodi dila complex p	(Riemann definition), techniques of integration and application of integrals, Generalized Riemann integral	raio. primitivos, asi	iiito iiitogiai
01MANZ	Calculus 1, exam	ZK	4
01NMA1 The course introd	Numerical Mathematics 1 uces to numerical methods for solving the basic problems arising from technical and research problems. The accent is put on a good theoretical methods.	ZK d understanding of	4 the root of
01NMA2	Numerical Mathematics 2	Z,ZK	3
	ed to numerical solution of boundary-value problems and intial-boundary-value problems for ordinary and partial differential equations. Jary-value problems to initial-value problems and finite-difference methods for elliptic, parabolic and first-order hyperbolic partial diffe		s converting
01PERI	Programming of Peripherals Devices	Z	2
01PGR1	rganization, input and output ports, computer bus. Software libraries for computer peripherals, 3D graphic libraries. Principles of peripherals, 3D graphic libraries. Principles of peripherals, 3D graphic libraries.	Z,ZK	2
	two-semester "Computer Graphics" course is devoted to the specifics of digital display devices spanning from history up to the state of		
	ental problems in 2D computer graphics is given together with their solutions. Focus is put on mathematical description of problems and e		
algorithms using k	nowledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications of com the process of authoring scientific documents and presentations.	puter graphics app	oroaches in
01PGR2	Computer Graphics 2	Z,ZK	2
1	of the two-semester "Computer Graphics" course begins with a brief introduction to signal theory in the context of aliasing - a phenon a well structured survey of fundamental problems in 3D computer graphics is given together with their solutions, from the description	-	
1	put on mathematical description of problems and explanation of the corresponding algorithms using knowledge previously obtained in		
1	orithm implementation aspect such as data structures design etc. is also a matter of concern. In the last lecture, a number of theoretic		
OADDOT	using Blender, an open-source 3D modeling and rendering software instrument.	7 71/	
01PRST	Probability and Statistics of probability theory and mathematical statistics. The probability theory is build gradually beginning with the classical definition and	Z,ZK	4
definition. The notice	ons as random variable, distribution function of random variable and characteristics of random variable are treated and basic limit the ebasic of this theory the basic methods of mathematical statistics such as estimation of distribution parameters and hypothesis testi	eorems are stated	- 1
01PSL	LaTeX - Publication Instrument	Z	2
	The course is devoted to the basics and facilities of computer typography, particularly to the system LaTeX		

04505			
01PSR	Principles of Statistical Decision Making	ZK	2
The subject is devo	sted to the statistical techniques for general decision procedures based on optimization of suitable stochastic criterion, their mutual co- properties and applicability.	mparisons with res	spect to their
01PW	Windows Programming	Z	2
	graphical programs for MS Windows. Basic editing controls. File input and output. User defined components, dynamic type identifica		
01SAM	Seminar of Applied Mathematics and acoustic emission. 2. Machine learning. 3. Traffic flow dynamics. Dynamics of crowd movement. 4. Digital image processing. 5. D	Z	2 Statistical
1. Delectoscopy	predictions in economics, sociology and psychology. 7. Application of random matrix theory.	yriainie prieing. o.	Otatistical
01SITE1	Computer Networks 1	Z	2
	history and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Network pro		
	tions. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification auth actice. Network security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the se		
01SITE2	Computer Networks 2	Z	2
_	history and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Network pro	-	
	tions. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification auth		
01SOS1	actice. Network security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the so Software Seminar 1	Z	2
010001	Java, Java Beans, Assembly language programming for microprocessors Intel 80x86	_	_
01SOS2	Software Seminar 2	Z	2
Graphical libraries	GTK+ and Qt. Development of graphical user interface using C and C++ programming languages. Portable applications for Unix like	operating systems	s, especially
0400144	for Linux systems. Portability to Microsoft Windows.	7	
01SSM1 This seminar i	Seminar of Contemporary Mathematics 1 provides a different approach to those fields of mathematics that are included in curriculum but also to those that are not part of basic	Z courses of mathe	2 ematics.
01TA	Algebra and Calculus in Applications	ZK	2
We illustrate metho	ids based on combination of (CONtinuous) calculus and discrete (disCRETE) structures, so calles concrete mathematics. Theorems a	re motivated by pro	oblems from
	informatics and they are illustrated on problems from informatics.		
01TKO	Theory of Codes Algebraic methods used in error detecting and error correcting codes.	ZK	2
01USU	Introduction to Machine Learning	Z,ZK	4
	rse is to provide a broad introduction to machine learning, data mining and statistical image recognition. Main attention is paid to the	,	earning with
	r analysis and dimensionality reduction. The lectures and theory explanation is accompanied by examples of experiments and practic		ercises use
01ZAOS	n and run in computer labs with emphasis on the implementation and use of machine learning algorithms applied to real data from production to Operating Systems	Z,ZK	2
	tion to structure of operating systems. Processes, thread, memory management. Synchronization of multi-threaded applications. Me	. ,	1
01ZPB1	Introduction to Computer Security 1		1
	introduction to computer decurity i	Z	2
02DEF1	History of Physics 1	Z	2
02DEF1 Physics and its pl	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philo	Z psophers, Aristotle.	2 . Physics in
02DEF1 Physics and its pl	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philo Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I	Z psophers, Aristotle.	2 . Physics in
02DEF1 Physics and its pl	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philo Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I as experimental science. Newton and his work.	Z psophers, Aristotle.	2 . Physics in
02DEF1 Physics and its pl Helenistic period, 02DEF2 Development of	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philo Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I as experimental science. Newton and his work. History of Physics 2 If classical mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach.	Z psophers, Aristotle. Huygens. The birth Z Electricity and mag	2 Physics in a of physics 2 netism -
02DEF1 Physics and its pl Helenistic period, 02DEF2 Development celectrostatics, galv	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philotophic Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I as experimental science. Newton and his work. History of Physics 2 If classical mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach. Evanism, electrodynamics and electromagnetism, Faraday and Maxwell. Thermodynamics and its laws, statistical physics, Boltzmann.	Z psophers, Aristotle. Huygens. The birth Z Electricity and mag The birth of moder	2 . Physics in a of physics 2 . netism - rn quantum
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02DEF1 Physics and its pl Helenistic period, 02DEF2 Development of electrostatics, galvand relativistic processor of the control of the cont	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philotopic for the system of science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I as experimental science. Newton and his work. History of Physics 2 If classical mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach. Evanism, electrodynamics and electromagnetism, Faraday and Maxwell. Thermodynamics and its laws, statistical physics, Boltzmann. Shysics, Planck and Einstein. Discovery of radioaktivity, structure of atom, atomic nucleus, Rutherford and Bohr. The way to nuclear erestandard model. The concept of Nature and Universe of today. Electricity and Magnetism Sulomb's law, electrostatic field, Gauss' law. Electric dipole, polarization. Conductors and dielectrics. Electric current and circuits, concepts of the system of the	Z psophers, Aristotle. Huygens. The birth Z Electricity and mag The birth of moder nergy, Elementary Z,ZK ductivity. Basics of the	2 Physics in of physics 2 Inetism - rn quantum particles, 6 the relativity
02DEF1 Physics and its pl Helenistic period, 02DEF2 Development of electrostatics, galvand relativistic processor of the control of the cont	History of Physics 1 ace in the system of sciences. The relationship of man and nature. Natural sciences in ancient Orientand Greece, Greek natural philotopic Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I as experimental science. Newton and his work. History of Physics 2 If classical mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach. Evanism, electrodynamics and electromagnetism, Faraday and Maxwell. Thermodynamics and its laws, statistical physics, Boltzmann. Shysics, Planck and Einstein. Discovery of radioaktivity, structure of atom, atomic nucleus, Rutherford and Bohr. The way to nuclear erastandard model. The concept of Nature and Universe of today. Electricity and Magnetism Joulomb's law, electrostatic field, Gauss' law. Electric dipole, polarization. Conductors and dielectrics. Electric current and circuits, concept contents.	Z Desophers, Aristotle. Huygens. The birth Z Electricity and mag The birth of moder nergy, Elementary Z,ZK ductivity. Basics of the Maxwell equations	2 Physics in of physics 2 Inetism - rn quantum particles, 6 the relativity
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04AKS	English Conversation	Z	1
	velop the student's communication skills acquired throughout their previous studies. It aims to improve all aspects of oral communication		
	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to		participate
	iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more con	fident speaker.	
04XAM1	English for Intermediate Students M1		2
-	gned for students who have successfully completed the full secondary school English language course at least at the A2 level of the C Inguages (CEFR). It provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into fundamentals of	•	
	and written communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical interest and second and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and needs as well as topics of subtechnical interest and second as the student's life and second as the second as the student's life and second as the student's life as the student's life and second as		
protocolorial oral o	extending the knowledge of grammar issues used in EAP.	3.00ti / titoi.o.	aloo pala to
04XAM2	English for Intermediate Students M2	Z	2
-	expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on	_	I
and lexical items ty	pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided	writing. If necessa	ry, grammar
	revision is included.		
04XAM3	English for Intermediate Students M3	Z	2
	os the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnic	-	
_	professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication		
equivalents. The co	ourse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation o	n a chosen topic re	elated to the
0.43/.0.8.471/	student's field.	71/	
04XAMZK	English for Intermediate Students Examination	ZK	4
	ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts	•	i) and orai
	30 min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three E	7	
04XAP1	English for Advanced Students P1 gned for students who have successfully completed the full secondary school English language course (at least the B1 level of the C	_	2 Framowork
	gried for students who have successfully completed the full secondary school English language course (at least the BT level of the C Languages - CEFR). It provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the fundament	•	
	e typical of professional oral and written communication situations (fundamentals of terms in mathematics and physics, definitions, gi	•	
	oral and written communication on topics related to the undergraduate's life and needs. It develops skills for free professional writing (w		,
·	polite request). If necessary, revision of selected grammar topics is included.		
04XAP2	English for Advanced Students P2	Z	2
The AP2 course is	based on AP1, thus extending the student's skills for working with subtechnical texts, and even with professional texts of chosen brain	nches of science.	According to
the students' need	s it concentrates on chosen grammar topics, but mainly intends to develop understanding of syntactic structures and typical rhetorica	I functions (e.g., va	arious types
of descriptions, an	d, if possible, a case study). Increasing emphasis is placed on the undergraduate's independent work with and reading of linguistical	ly more demanding	g materials.
The course extends	s the student's subtechnical vocabulary, and includes fundamental notions of chosen branches of science. It is focused on formal writing	ng including the se	entence and
	paragraph structure, linking, cohesion and coherence in texts.		1
04XAP3	English for Advanced Students P3	Z	2
	based on AP2 and expects the student to work without any guidance with authentic professional materials and to interpret the text. It in		
	ills and functions (e.g., expressing an opinion, agreement, and objections; taking part in discussion, note-taking; summarizing, writing project on a given or chosen topic and presenting it. The course places emphasis on distinguishing levels of formal and informal lang:	•	-
also preparing a	communication.	age bott in oral a	ind written
04XAPZK	English for Advanced Students Examination	ZK	4
-	t is the examination as given by the study plan. The student is supposed to demonstrate mastering the AP3 syllabus and the ability to a	l	
	courses. The examination consists of 2 parts - written (100 min) and oral (30 min) and includes also oral presentation of a topic from		_
04XCESM1	Czech for Foreigners - Intermediate 1	Z	2
	ed on correct pronunciation, important morphological phenomena, prepositional phrases, and verb forms as well as on extending the si	tudent's vocabular	1
	social situations.		
04XCESM2	Czech for Foreigners - Intermediate 2	Z	2
The course develo	ps the topics covered in CESM1 and is then focused on more difficult grammar phenomena. It practices writing, speaking, and reading	g skills and trains	the student
	in understanding common abbreviations, abbreviated words, and mathematical terms and formulas.		
04XCESM3	Czech for Foreigners - Intermediate 3	Z	2
The last course r	evises morphological topics covered earlier and extends the student's knowledge of more difficult language phenomena. It is especia	ally focused on sty	listics and
	lexicology and on developing the student's writing skills.		1
04XCESMZK		ZK	4
The course conter	nt is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the CES	M1,2,3 courses ar	nd can only
	be taken after successful completion of the 3 courses. Detailed information is to be obtained from the teacher.		_
_04XCESP1	Czech for Foreign Students - Advanced 1	Z	2
	the course is very good knowledge of the Czech language, i.e., communicative competences at least at level B2 of the Common Europ		
	on revision of standard language structures, but mainly on practising more complex grammatical structures typical of the style of sci		-
Dasics of fullction	nal style of engineering and professional communication, both in spoken and written form. The topics include University Studies and Sincludes communication with teachers and faculty administrators.	student Life. Writte	ii practice
04XCESP2	Czech for Foreigners - Advanced 2	Z	2
	CZECN FOREIGNERS - Advanced 2 Is the student's knowledge acquired in CESP1 and focuses on difficult language phenomena. It practises working with technical and	_	ı
o oodigo extellu	emphasis on individual work.	spoording toxto pla	any greater
04XCESP3	Czech for Foreigners - Advanced 3	Z	2
	ps the student's knowledge from CESP2. It includes working with authentic specialist materials, their interpretation and presentation,		I .
	student's project. Writing skills necessary for professional communication are trained.	.,,, p. 55011	
04XCESPZK	Czech for Foreign Students - Advanced Examination	ZK	4
	nt is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the CES		1
	be taken after successful completion of the 3 courses. Detailed information is to be obtained from the teacher.	, ,	
04XCESZ1	Czech for Foreigners - Beginners 1	Z	2
	gned for students of the English programme. Students will become acquainted with the main characteristics of Czech (phonetic and g		I
	lage and speaking skills. The course focuses on pronunciation exercises, simple social phrases, and oral and written communication	•	
_	situations. The course covers roughly lessons 1-3 of eština Express (Czech Express) by L. Holá and P. Bo ilová.		-

04XCESZ2	Czech for Foreigners - Beginners 2	Z	2
The language and	communication competences acquired in CESZ1 are further developed. Students deepen their knowledge of the declension and corbasic communication topics. The course covers roughly lessons 3-5 in Czech Express by L. Holá and P. Bo ilová.	ijugation system a	nd practise
04XCESZ3	Czech for Foreigners - Beginners 3	Z	2
	er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on	building up basic v	ocabulary,
fixing correct pronu	inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce	simple texts and the	hey practise
frequent types of di	ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.	lessons 5-7 in es	ština expres
04XCESZZK	Czech for Foreigners Beginners - Examination	ZK	4
The course conte	ent is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the 04X only be taken after successful completion of all three courses. Detailed information is to be obtained from the teacher.	.CESZ1,2,3 course	es and can
04XFM1	French for Intermediate Students M1	Z	2
	ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both v		
	mmunicate in social interaction and in academic, scientific and professional environment. They will be able to use the language to tra	_	
	solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, syste vious study. The following topics are covered: University studies in our country and in France, writing of transactional letters, CV, persor	•	~ ~
	French culture and geography, Paris. Topics of specialization: mathematics, physics. Reading technical and popular science texts, wo	· · · · · · · · · · · · · · · · · · ·	
04XFM2	French for Intermediate Students M2	Z	2
	on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text	ts, features typical	
and scientific lan	nguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French scie	nce and technolog	y, French
	scientists, artists and architects. Description of an object, device, shapes, dimensions, material.		
04XFM3	French for Intermediate Students M3	Z	2
	sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub		
	res, compound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-cla Iture specialisation or to their interest and generally covers a technical /applied science topic. It is not a translation but a creative work		
	e's own knowledge/experienceLonger monologues on topics /situations set for the examination are prepared. Text structure, cohesi	•	
04XFMZK	French for Intermediate Students Examination	ZK	4
The content is the	e examination as given by the study programme. The whole French programme is ended with an examination covering the contents o	f FM1-FM3. The ex	kamination
	consists of a written and oral part and is organized according to Examination Instructions, a document available on the well).	
04XFP1	French for Advanced Students P1	Z	2
	se The objective of this three-semester course is to improve and further develop communication in the French language in both written		
	iicate in social interaction and in academic, scientific and work environment. They will be able to use the language to transmit general FP1 The course builds on and further develops linguistic competence acquired at secondary school. Difficult grammar topics are repe		
· ·	parfait, pronouns. The following specific topics are covered: University studies in our country and in France, writing of transactional le	· ·	-
-	an advert, environmental issues, success of French science and technology, chosen topics from French regional culture, Paris. Topics		
	internet, physics, chemistry. Reading of technical and popular science texts, further work with these texts and interpretation	١.	
04XFP2	French for Advanced Students P2	Z	2
With the link to P1	contents, the course further develops language skills. Focus is put on reading popular science texts and on oral communication on g	iven topics. Feature	es typical of
0.4)/ED0	technical and scientific communication are stressed (passive voice, nominalization, word formation).		
04XFP3	French for Advanded Students P3	Z	2
	sed on systemization and improvement of acquired linguistic competence, skills and knowledge, and their use for communication in eng f shorter texts (both from and into the language). Writing of a paper and making oral presentation in-class. The paper generally cover	-	
	topic. It is a creative work compiled from 3 French sources. Preparation of several set topics for oral examination.	5 а 100оа. /арр	.00 00.01.00
04XFPZK	French for Advanced Students Examination	ZK	4
	program is ended with an examination covering the contents of FP1-FP3. The examination consists of a written and/or an oral part a		ccording to
	Examination Instructions, a document available on the web. Assessment of the presentation is included into the examination gradual description of the presentation is included into the examination gradual description.		
04XFZ1	French for Beginners Z1	Z	2
•	rs The objective of this 5-level course is to be able to communicate in French orally and in writing in situations of everyday life, in soci	• .	
	es French for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able to using the knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravo		· 1
	za ate ky). It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions, pe		-
	directions, simple instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronu		
04XFZ2	French for Beginners Z2	Z	2
	ng up with FZ1. Elementary linguistic knowledge and communication skills are expanded. The scope is given by lessons 8 - 13 of the	textbook: Pravda -	
_	ners . Additional topics and skills are filled in from the textbook Espaces I, lesson 1 - 5 (introductions, invitation, welcoming, agreement	=	
thanking, travelling,	, map of France, food, expression of will, wish, order, prohibition, pleasure). Correct pronunciation is practiced. Stress on oral communic How does the machine work? A few expressions concerning the study. Name of University and Faculty.	cation. Specific top	ics covered:
04XFZ3	French for Beginners Z3	Z	2
	upon FZ2. Basic linguistic knowledge and skills are developed. The contents is given by lessons 14 - 18 of the textbook: Pravda - Pra		
	and situations are complemented from other materials. Stress is put on oral communication in dialogues and on reading, both for info		- 1
	pronunciation practice. Reading covers short adapted texts of general interest first, and later popular science texts.		
04XFZ4	French for Beginners Z4	Z	2
	up on FZ3. Basic linguistic knowledge and skills are further developed. Oral communication and reading skills are practiced. The cor		
	he textbook French for Beginners, and is expanded with topics and functions from other materials. Reading is developed from the lectur The course covers generals and specific topics: health- illness, sport, free time, environment, study, travelling in France, Paris, shopp		1
Judenia di FJFI.	country and in France, how to write CV, application, topics in mathematics, reading physics - mechanics, informatics, internet	-	rionty III OUI
04XFZ5	French for Beginners Z5	Z	2
	red in FZ4 are further developed, as well as technical language. Students prepare a paper on a chosen popular science topic. They pr		
general contents	is covered by lessons 24 - 26 of the textbook: Pravda-Pravdova, French for Beginners, and is complemented from other materials. To	pics: on physics fro	om lecture
notes, success	of French science and technology, information about France. Grammar is systemized and complemented with syntax (subordinate cla	auses, typical conju	unctions,
	subjunctive clauses, gerund, passive.		

04XFZZK The content is the			1 2
TIC CONTICHE IS THE	French for Beginners Examination examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination	ZK	3
	Instruction for examination. Its content covers the levels FZ1 - FZ5.	lion is raica by	ine documen
04XNM1		Z	2
	German for Intermediate Students M1	-	1
-	e course is to level off the students' skills in the German language. The course focuses on revision of more difficult phenomena and stru		
	n processes (e.g. importance of verb prefixes). In the lexical part, it covers topics referring to higher education in both the Czech Repub		•
environmentar is	sues together with all necessary expressions and phrases, expressions and phrases needed to chemists, mathematicians, physicists,		ientais oi m
0.4)/NIN40	terminology. It develops communication on related topics and is aimed at correct pronunciation, grammatical correctness and underst		
04XNM2	German for Intermediate Students M2	Z	2
	ices other more complex grammatical structures and their application in communication based on technical texts, such as the relation bet	_	-
	beginning of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers and ca		
ractise reading for	r information and reading aloud, and appropriate language for various purposes in oral and written communication. The course systematic	ally revises othe	er grammatic
	phenomena important for professional discourse (participles, relative clauses).		
04XNM3	German for Intermediate Students M3	Z	2
	ices other more complex grammatical structures and their application in communication based on technical texts, such as the relation bet	_	-
	beginning of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers and ca		
actise reading for	r information and reading aloud, and appropriate language for various purposes in oral and written communication. The course systematic	ally revises othe	er grammatio
	phenomena important for professional discourse (participles, relative clauses).		
04XNMZK	German for Intermediate Students Examination	ZK	4
ne course conten	t is the examination as given by the study plan. The whole German for Intermediate Students Course is completed by an examination or	onsisting of two	parts - writte
nd oral, which co	over the courses NM1 - NM3. The oral part follows after passing the written part successfully and after obtaining the 04NM3 assessment	nt. More detaile	d informatio
	is to be obtained from the teacher.		
04XNP1	German for Advanced Students P1	Z	2
	res good grammar knowledge, extended general vocabulary, and good communication skills acquired at secondary school to be levelle	ed off at the bed	1
•	se is then focused on working with technical and scientific texts and practising reading techniques (skimming, scanning, reading for de	-	
	mar structures necessary for understanding a subtechnical text (passive voice, participles, participle structures) and it also focuses on pract		
· ·	i.e., telephoning.	, ,	
04XNP2	German for Advanced Students P2	7	2
-	ps the students' skills in working with professional scientific texts (understanding, summarising, note-taking, interpreting) while extending t	_	1
-	t introduces mathematical expressions and texts of nuclear power engineering. Increasing emphasis is placed on understanding and practices that the process of the process	_	
· -	oth written and oral (CV, letter of application, interview, scholarship), and more complex grammatical structures (i.e., subjunctive, indire	_	minumoanc
04XNP3	German for Advanced Students P3	Z	2
	sts of 3 main parts (general communicative situations, grammar and technical topics). Students will develop their vocabulary in a variet	=	
	nd car accidents, accident report, filling in a form, complaints). Based on presentations and technical and subtechnical texts, the vocab		
•		, ,	
nuclear power en	ngineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used.	By means of a p	resentation,
nuclear power en	ngineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. Ed to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The co	By means of a p	resentation,
nuclear power en tudents are traine	ngineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. Ed to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The copractice to and from German.	By means of a pourse also include	resentation, les translatio
nuclear power en	ngineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. Ed to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The co	By means of a p	resentation,
nuclear power encudents are trained 04XNPZK The course content	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. End to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The compression of the compression of the class in a simplified oral form. The class is class in a simplified oral form. The class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form	By means of a pourse also included ZK nsisting of two p	resentation, des translation 4 parts - writte
nuclear power encudents are trained 04XNPZK The course content	ngineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. End to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The content of the class in a simplified oral form.	By means of a pourse also included ZK nsisting of two p	resentation, des translation 4 parts - writte
nuclear power en udents are trained 04XNPZK he course conten	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. End to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The compression of the compression of the class in a simplified oral form. The class is class in a simplified oral form. The class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form. The class is class in a simplified oral form	By means of a pourse also included ZK nsisting of two p	resentation, des translation 4 parts - writte
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nuclear power en udents are trained 04XNPZK he course conten and oral, which course is designed.	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. Ed to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The compression of the compression of the class in a simplified oral form. T	By means of a purse also included by means of a purse also included by the second by t	des translation 4 parts - writte pore detailed 2 handwritter
nuclear power en udents are trained 04XNPZK he course conten and oral, which course is designatic vocabulary for asic vocabulary for udents are trained or and oral trained oral traine	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. Ed to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The compression of the compression of the class in a simplified oral form. The class in a simpl	By means of a purse also included by means of a purse also included by the	des translation 4 parts - writte pore detailed 2 handwritter ng directions
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04XNPZK he course conter and oral, which of 04XRM1 he course is designative vocabulary for they can use base	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. It does not be process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The compression of practice to and from German. German for Advanced Students Examination In this is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examination concover the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungraded information is to be obtained from the teacher. Russian for Intermediate Students M1 gned for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alphabet (but communication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, asking the sic grammar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement lead to contents and scope of the course correspond approximately to the RZ3 course, but for half of the time allotted in the timetable	By means of a purse also included by means of a purse also included by the	des translation 4 parts - writte pre detailed 2 handwritteing directions course. The
04XNPZK the course content and oral, which of the course is designative vocabulary for they can use based of the course is designated as a course of the course is designated as a course of the course of	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. It does not not be considered by an examination gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The construction of practice to and from German. German for Advanced Students Examination In this is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examination concover the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungraded information is to be obtained from the teacher. Russian for Intermediate Students M1 gened for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alphabet (but or communication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, asking the sic grammar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement lead contents and scope of the course correspond approximately to the RZ3 course, but for half of the time allotted in the timetable Russian for Intermediate Students M2	By means of a purse also included by means of a purse also included by the	des translation 4 parts - writte pore detailed 2 handwritten ng directions
04XNPZK he course content and oral, which of the course is designative vocabulary for they can use base	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. It does not be process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The compractice to and from German. German for Advanced Students Examination Int is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examination concover the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungraded information is to be obtained from the teacher. Russian for Intermediate Students M1 gened for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alphabet (but or communication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, asking the sic grammar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement leads contents and scope of the course correspond approximately to the RZ3 course, but for half of the time allotted in the timetable Russian for Intermediate Students M2 The course is based on the RM1 course, its contents and scope correspond roughly to RZ4, however, for half of the time allotted in the standard or the	ZK nsisting of two passessment. Moreover also included and ne way and giving vel of the RZ2 of the timetable.	des translation 4 parts - writte pre detailed handwritter and direction course. The
04XNPZK the course content and oral, which of the course is designative vocabulary for they can use base 04XRM2	regineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. It does not not be considered by an examination gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The constitution of practice to and from German. German for Advanced Students Examination In it is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examination concover the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungraded information is to be obtained from the teacher. Russian for Intermediate Students M1 gned for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alphabet (but or communication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, asking the sic grammar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement lead contents and scope of the course correspond approximately to the RZ3 course, but for half of the time allotted in the timetable Russian for Intermediate Students M2 The course is based on the RM1 course, its contents and scope correspond roughly to RZ4, however, for half of the time allotted in the Russian for Intermediate Students M3	ZK nsisting of two passessment. Moreover also included and the way and giving vel of the RZ2 of the timetable. Z	des translation des translation des translation des translation des translations de translations de translations des translations de translations de translations de translation
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Russian for Beginners Z1 04XRZ1 The course represents the first stage of the five-semester programme, its final aim being reading and understanding professional texts written in Russian. Thus it begins with mastering the Russian alphabet (for both reading and writing skills) and fundamentals of grammar necessary for everyday communication (listening and speaking). Students will be able to read a short text with marked stress, understand its contents and summarize it. 04XRZ2 Russian for Beginners Z2 7 2 The second semester of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subtechnical texts. Students will be able to communicate using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also develop their vocabulary and master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in writing. 04XRZ3 Russian for Beginners Z3 The course is based on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training various forms of reading skills and listening) and introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be able to respond so as to be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking. Russian for Beginners Z4 04XRZ4 The course is based on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a certain percentage of unfamiliar words, oral communication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs, differences in verb patterns from Czech, modality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and practice oral and written communication on more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., Siberia), learn how to fill in forms, look up the information from the timetable, learn about Russian holidays and typical meals. 04XRZ5 Russian for Beginners Z5 The course expects the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding, extracting and summarizing information from a specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication skills are trained on everyday topics. Studying grammar is based on professional and technical texts and only includes items typically used in professional communication (verbal adjectives, participles, passive voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, polite request, etc.) 04XRZZK Russian for Beginners Examination 3 The course content is the examination as given by the study plan. The course is completed by taking a written and oral examination testing the knowledge and skills acquired in RZ1 - RZ5. Students are eligible for the oral examination only after a prior pass in RZ5 and a successful written examination. Students are given instructions by the teacher. 04XSM1 Spanish for Intermediate Students M1 The course is designed for students whose competence is at level B1 of CEFR, i.e. those who studied Spanish in the secondary school. The 3-semester course develops standard vocabulary and pays attention to further grammar topics (e.g., perifrasis verbales, futuro imperfecto, direct object and indirect object pronouns, negative form of the imperative, and subjunctive), to written and oral communication on a given everyday or easy subtechnical topic, for which the students are trained by reading texts or listening to them. 04XSM2 Spanish for Intermediate Students M3 The course develops the students' knowledge from the previous course (SM1). Students are gradually acquainted with fundamentals of Spanish for specific purposes in order to be able to work with specialized texts on the Internet. 04XSM3 Spanish for Intermediate Students M3 The course books are supplemented with additional subtechnical materials, so the students will be gradually acquainted with the peculiarities of academic style. They will be competent enough to use the Internet in Spanish and search for information of their specialization or field of interest. Students will use the information to write short articles and summaries. The final part of the programme, general Spanish course based on course books, covers presentations and, finally, a written and oral examination. 04XSMZK Spanish for Intermediate Students Examination The course content is the examination as given by the study plan. SMZK examination consists of two parts - written and oral; to be eligible for the written part, students will have obtained non-graded assessment for course SM3. Oral examination follows the written part. Spanish for Advanced Students P1 04XSP1 Ζ 2 Course concentrates on more difficult grammar topics, revision of vocabulary, basics of Spanish for specific purposes as well as written communication. Course prerequisites: level B2 of CEFR. 04XSP2 Spanish for Advanced Students P2 Ζ 2 Course SP2 is the second part of the advanced Spanish course, extending Spanish for specific purposes topics. It comprises more grammar and syntax and focuses on independent written communication. 04XSP3 Spanish for Advanced Students P3 Ζ 2 Course SP3 is the final part of the advanced Spanish course. It is based on texts chosen by the students according to their future specialization. It is focused on written communication based on what students will need in their career. 04XSPZK Spanish for Advanced Students Examination 7K 4 The course content is the examination as given by the study plan. Examination SPZK consists of two parts, namely oral and written. The prerequisite for admission to oral part is having passed the written test. Examination content is based on syllabi of courses SP1, SP2, and SP3 or on an individual study plan of the student. Spanish for Beginners Z1 04XSZ1 Course SZ1 is the first stage of the five-semester programme of Spanish studies; during the first stage the students will master phonetics and fundamental grammar structures and will be able to communicate at an elementary level on topics of everyday life. They will acquire and extend fundamental vocabulary of general Spanish and will develop it. Spanish for Beginners Students Z2 04XS72 7 Course SZ2 is based on course SZ1, and expects students to develop and extend the knowledge and skills acquired so far. Grammar structures and lexis will be chosen so as to enable them to understand short adapted written texts and speech. Attention is also paid to cultural differences between Spanish-speaking countries and others such as the Czech Republic. Realia of Spanish-speaking countries are also included. 04XSZ3 Spanish for Beginners Z3 7 2 The course is based on course SZ2, and develops the student's vocabulary and grammar structure. The course covers realia (history and culture) of the Spanish-speaking countries, mainly of Spain. It pays attention to further grammar topics (pretérito perfecto, pretérito indefinido, pretérito imperfecto, the gerund and the imperative). It includes written and oral communication on a given general topic, for which the student is trained by reading texts or listening to them. 04XSZ4 Spanish for Beginners Z4 The course is based on course SZ3. It develops the student's vocabulary and extends the knowledge of the culture and social customs of the Spanish speaking countries, mainly of Spain. It pays attention to further grammar topics (perifrasis verbales, futuro imperfecto, direct object and indirect object pronouns, negative form of the imperative, and subjunctive), to written and oral communication on a given general or subtechnical topic, for which the student is trained by reading texts or listening to them. 04XSZ5 Spanish for Beginners Z5 2 The course books are supplemented with additional subtechnical materials, so the students will be gradually acquainted with peculiarities of Spanish for specific purposes. In its final part, the general Spanish course based on the course book will end with presentations and, finally, a written and oral examination.

04XSZZK			
The	Spanish for Beginners Examination	ZK	3
The course conte	ent is the examination as given by the study plan. Examination consists of two parts - written and oral. Student can register for oral examination consists of two parts - written and oral.	amination only if h	e/she has
	passed the written examination test.		
12POAL	Computer Algebra	KZ	2
	n of basic objects (integers, rational and algebraic numbers, polynomials, rational functions, radicals, algebraic functions), arithmetics, si		
	derivation, series summation, integration, ordinary differential equations, factorization, equations solving, quantifier elimination, subst ning, graphics, Maple - detailed introduction and solving of practical examples, applications, overview of other systems (Axiom, Macsyn	•	٠ ا
12UNXAP	Introduction to UNIX perating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfac	Z	2
	ting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working wit		
	eter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to		
-	nputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a co		
	hardware sharing, mail, scp, etc. Network applications		
12UVP	Introduction to Scientific Computing	Z	2
Practically oriente	d Introduction to scientific computing. Constituent part of the course is realized in computer classroom. Students get acquinted with so	ome basic tools fo	rt scientific
	and technicval computing, data analysis, data visualisation and algorithm development.		
12ZEL1	Basic Electronics 1	Z,ZK	3
	des primary knowledge of circuit theory concerning principles of electronic circuits in both stationary and harmonic stable state. Circu	-	II.
	e symbolic and complex method are explained. Proper circuit analysis is also lectured. The subject's final part deals with transient effe		
12ZEL2	Basic Electronics 2	Z,ZK	3
-	ws up with the Basic Electronics 1. Semiconductor elements basic properties are explained. Thecourse's final part deals with basic the	-	
15CH1	General Chemistry 1 t concepts, quantities and units used in chemistry are introduced in the course General Chemistry I. Their significance and practical u	Z	3
The most importan	solved in exercises.	ise are iliustrateu t	by examples
15CH2	General Chemistry 2	Z,ZK	3
The subject is the	continuation of the course General chemistry I. The main attention is paid to general principles governing chemical processes. Using v	various examples,	the fact that
the validity of these	principles is not restricted only to chemical processes is documented. The significance and practical use of explained principles are	illustrated by exam	nples solved
	in exercises.		
18INTA	Development of internet applications	KZ	4
The lectures provide			
-	le an overview of modern technologies for the development of web applications. Students will learn basic web languages and concep		
-	ced to relational database systems. The tutorials are dedicated to practical examples of building web applications, from the simplest t	o more advanced.	
will also be introdu	ced to relational database systems. The tutorials are dedicated to practical examples of building web applications, from the simplest to is oriented primarily towards backend technologies and using the Python languages, but covers also frontend frameworks and Jav	o more advanced. vaScript.	The course
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