## Study plan

## Name of study plan: Aplikace informatiky v p írodních v dách

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Applications of Informatics in Natural Sciences

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 program

Minimal number of credits of the block: 0

The role of the block: P

Code of the group: BSPAIPV1

Name of the group: BS P\_AIPVB 1st year

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 17 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	_AL.				
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	Р
01DIM1	Discrete Mathematics 1  Edita Pelantová, Zuzana Masáková, Lubomíra Dvo áková Zuzana Masáková (Gar.)	Z	2	2P+0C	Z	Р
01DIM2	Discrete Mathematics 2  Edita Pelantová, Zuzana Masáková Zuzana Masáková (Gar.)	Z	2	2P+0C	L	Р
01LAL	Linear Algebra 1 Lubomíra Dvo áková, Petr Ambrož Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	Z	2	2P+2C		Р
01LALZ	Linear Algebra 1, exam Lubomíra Dvo áková, Petr Ambrož Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	ZK	2	0P+0C		Р
01LAL2	Linear Algebra 2 Lubomíra Dvo áková, Petr Ambrož Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	Z,ZK	4	2P+2C		Р
18MAK1	Macroeconomics 1 Quang Van Tran Quang Van Tran (Gar.)	Z,ZK	4	2+2	L	Р
01MAN	Calculus 1  Edita Pelantová, Pavel Strachota, Miroslav Kolá Pavel Strachota Pavel Strachota (Gar.)	Z	4	4+4		Р
01MANZ	Calculus 1, exam  Edita Pelantová, Pavel Strachota, Miroslav Kolá Pavel Strachota Pavel  Strachota (Gar.)	ZK	4	0P+0C		Р
01MAN2	Calculus 2 Edita Pelantová, Miroslav Kolá, Maksym Dreval Edita Pelantová Maksym Dreval (Gar.)	Z,ZK	8	4P+4C		Р
18MIK	Microeconomics Quang Van Tran Quang Van Tran (Gar.)	Z,ZK	4	2P+2C	Z	Р
18PPY1	Programming in Python 1  Matej Mojzeš, Jakub Klinkovský Jakub Klinkovský (Gar.)	Z	2	2C	L	Р
00PT	Preparatory Week Petr Ambrož, Milan Krbálek Petr Ambrož Petr Ambrož (Gar.)	Z	2	týden	Z	Р
18OS	Operating Systems Administration Vladimír Jarý Vladimír Jarý Vladimír Jarý (Gar.)	KZ	2	0+2	L	Р

18ZPRO	Basics of Programming Maksym Dreval, Jakub Klinkovský, Vladimír Jarý, Jan Tomsa, Petr Pauš, František Vold ich, Miroslav Virius, Zuzana Pet í ková, Nichita Vatamaniuc, Miroslav Virius Miroslav Virius (Gar.)	Z	4	4C	Z	Р
Characteristics of	the courses of this group of Study Plan: Code=BSPAIPV1 Name=B	S P_AIPVB	1st year			
	History of Physics 1				Z	2
	he system of sciences. The relationship of man and nature. Natural sciences in ancient Orio	entand Greece,	Greek natur	al philosoph	ners, Aristo	tle. Physics in
Helenistic period, Archim	ned. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano B	runo. Copernicu:	s, Kepler, G	alileo, Huyg	ens. The b	irth of physics
as experimental science.	Newton and his work.					
01DIM1	Discrete Mathematics 1				Z	2
The seminar is devoted t	o elementary number theory and applications. It includes individual problem solving.					
01DIM2	Discrete Mathematics 2				Z	2
The seminar is devoted t	o recurrence relations. It includes individual problem solving.					
01LAL	Linear Algebra 1				Z	2
1. Vector space. 2. Linear	dependence and independence. 3. Basis and dimension. 4. Subspaces of vector spaces. 5	5. Linear mappin	gs. 6. Matric	es of linear	mappings	. 7. Frobenius
theorem.						
01LALZ	Linear Algebra 1, exam				ZK	2
01LAL2	Linear Algebra 2			Z	Z,ZK	4
	and operator. 2. Permutation and determinant. 3. Spectral theory (eigenvalue, eigenvector,	-				
•	y. 6. Metric geometry. 7. Riesz theorem and adjoint operator. Outline of the exercises: 1. Me					
	lation of eigenvalues and eigenvectors. 4. Hermitian and quadratic forms. Canonical form. 5	<ol><li>Scalar product</li></ol>	and orthog	onality. Calc	culation of	orthogonal
	try exercises and examples. 7. Adjoint operators.					
1	Macroeconomics 1			1	z,zk	4
	des students with a fundamental theoretical basis for understanding how an economy works		nain macroe			-
macroeconomic equilibri						
•	um theory, fundamentals of open economy theory, inflation, unemployment, economic grow					
AS-AD and their implicati	ons for economic policies. The learning outcomes of the course is to equip students with ability					
AS-AD and their implicati and subsequently to use	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.				a and their	interconnection
AS-AD and their implicati and subsequently to use 01MAN	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1					
AS-AD and their implicati and subsequently to use 01MAN Basic calculus (real anal	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1  ysis, functions of one real variable, differential calculus).			phenomena	a and their	interconnection
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real anal 01MANZ	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam			phenomena	z Z ZK	interconnections 4
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analo1MANZ 01MANZ	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2	y to analyze mac	roeconomic	phenomena	Z ZK	4 4 8
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analo1MANZ 01MANZ 1. Continuation of differe	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence	y to analyze mac	sroeconomic	phenomena Z	ZK Z,ZK onditional of	4 4 8 convergence 3.
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analoum o1MANZ 01MANZ 01MAN2 1. Continuation of differe Real and complex power	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation	y to analyze mac	sroeconomic	phenomena Z	ZK Z,ZK onditional of	4 4 8 convergence 3.
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tec	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral	y to analyze mac	sroeconomic	phenomena Z Z Solute and co	ZK Z,ZK conditional controls primitives	4  4  8 convergence 3., definite integra
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyo1MANZ 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tec 18MIK	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics	y to analyze mac	series, abs s. 4. Theory	phenomena Z Z olute and co of integrals:	ZKZ,ZK primitives.	4  4  8 convergence 3. definite integra
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyo1MANZ 01MANZ 01MAN2 1. Continuation of differe Real and complex power (Riemann definition), tec 18MIK Microeconomics is a set	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thickness of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allocated.	y to analyze mac	series, abs s. 4. Theory	phenomena  Zolute and coof integrals:  Zs. Microeco	ZK Z,ZK onditional control of the primitives, primitives, promics exp	4  4  8 convergence 3. definite integra
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyo1MANZ 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tec 18MIK Microeconomics is a set prices and markets in the	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thickness of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allow se processes and makes more clear behaviour of the economic agents. Lectures and seminal	y to analyze mac	series, abs s. 4. Theory	phenomena  Zolute and coof integrals:  Zs. Microeco	ZK Z,ZK onditional control of the primitives, primitives, promics exp	4  4  8 convergence 3. definite integra
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled.	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation hniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allow se processes and makes more clear behaviour of the economic agents. Lectures and seminating of calculus.	y to analyze mac	series, abs s. 4. Theory	phenomena  Zolute and coof integrals:  Zs. Microeco	ZK Z,ZK onditional of primitives. Z,ZK nomics export microeco	4  4  8  convergence 3.  definite integra  4  plains the role of conomic concepts
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analy 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tec 18MIK Microeconomics is a set prices and markets in the does not require knowled 18PPY1	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation hniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allow se processes and makes more clear behaviour of the economic agents. Lectures and seminating of calculus.  Programming in Python 1	y to analyze mac ee, operations on n of infinite serie cated among alto ars are designed	series, abs s. 4. Theory ernative use so that the e	phenomena  Zolute and coof integrals:  S. Microecoexplanation of	ZK Z,ZK onditional of primitives. Z,ZK nomics export microeco	4  4  8 convergence 3. definite integra  4  plains the role of the concepts  2
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyo1MANZ 01MANZ 1. Continuation of different Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allow se processes and makes more clear behaviour of the economic agents. Lectures and seminating of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The contents are seminative to advanced features of the Python language and common scientific packages. The contents are seminative to advanced features of the Python language and common scientific packages. The contents are seminative to advanced features of the Python language and common scientific packages. The contents are seminative to advanced features of the Python language and common scientific packages.	y to analyze mace, operations on n of infinite serie cated among alterars are designed ourse covers both	series, abs s. 4. Theory ernative use so that the e	phenomena  Zolute and coof integrals:  S. Microeco explanation of the phenomena	ZK Z,ZK onditional control of con	4  4  8 convergence 3. definite integra  4 conomic concept:
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 yesis, functions of one real variable, differential calculus).  Calculus 2, exam  Calculus 2 antial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation hiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allow se processes and makes more clear behaviour of the economic agents. Lectures and seminaring of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The copart of the course describes the use of Python in the fields of scientific and technical computir	y to analyze mace, operations on n of infinite serie cated among alterars are designed ourse covers both	series, abs s. 4. Theory ernative use so that the e	phenomena  Zolute and coof integrals:  S. Microeco explanation of the phenomena	ZK Z,ZK conditional of primitives. Z,ZK nomics export microecc Z as function a	4  4  8 convergence 3. definite integra  4 conomic concepts  2 nal programming and visualization
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of difference (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 2, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed see processes and makes more clear behaviour of the economic agents. Lectures and seminaring degree of calculus.  Programming in Python 1  udents to advanced features of the Python language and common scientific packages. The corporatory Week	y to analyze mace, operations on n of infinite serie cated among alterars are designed ourse covers both	series, abs s. 4. Theory ernative use so that the e	phenomena Z Z olute and co of integrals:  S. Microeco explanation of integrals as well ges), data pr	ZK Z,ZK conditional of primitives, of microeco Z as function or coessing a Z	4  4  8 convergence 3. definite integra  4 conomic concepts  2 nal programming and visualization 2
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of difference (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 2, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed see processes and makes more clear behaviour of the economic agents. Lectures and seminaring degree of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration	ee, operations on n of infinite serie cated among alterars are designed ourse covers bothing (NumPy and S	series, abs s. 4. Theory ernative use so that the e	phenomena Z Z olute and co of integrals:  S. Microeco explanation of integrals as well ges), data pr	ZK Z,ZK conditional of primitives. Z,ZK nomics export microecc Z as function a	4  4  8 convergence 3. definite integra  4 conomic concepts  2 nal programming and visualization
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operations	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 yesis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 nitial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed see processes and makes more clear behaviour of the economic agents. Lectures and seminare dege of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration  ng systems Windows and Linux. Users, rights, configuration, command line, networks, fireweights.	ee, operations on n of infinite serie cated among alterars are designed ourse covers bothing (NumPy and S	series, abs s. 4. Theory ernative use so that the e	phenomena Z Z olute and co of integrals:  S. Microeco explanation of integrals as well ges), data pr	ZK Z,ZK conditional of primitives, of microeco Z as function or occessing a Z KZ	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operations 12UNXAP	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 yes, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 nitial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thinques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allowed for theories, which help us to understand processes by which the scarce resources are allowed for calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration ng systems Windows and Linux. Users, rights, configuration, command line, networks, fireweighted.	y to analyze maces, operations on n of infinite series cated among alterars are designed ourse covers bothing (NumPy and States)	series, abs s. 4. Theory ernative use so that the e	phenomena  Z colute and co of integrals:  Z s. Microeco explanation of nted as well ges), data pr	ZK Z,ZK conditional of primitives. Z,ZK nomics export microecc Z as function rocessing a Z KZ	4  4  8 convergence 3. definite integra  4 conomic concept: 2 nal programming and visualization 2 2
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operating 12UNXAP Computer and operating	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 nitial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allowed from the calculus.  Programming in Python 1  udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration ng systems Windows and Linux. Users, rights, configuration, command line, networks, firew Introduction to UNIX systems. Personal computer, workstation and supercomputers. Processor, memory, bus, describes the processor in t	y to analyze maces, operations on n of infinite series cated among alterars are designed ourse covers bothing (NumPy and Series).	series, abs s. 4. Theory ernative use so that the e	phenomena  Z colute and co of integrals:  S. Microeco explanation of mited as well ges), data pr	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z rdware and	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software.
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analy 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operatin 12UNXAP Computer and operating synapsize calculates and substantial to the control of the computer and operating synapsize calculates and substantial to the computer and operating synapsize calculates and substantial to the control of the computer and operating synapsize calculates and substantial to the computer and operating synapsize calculates and substantial to the computer and operating synapsize calculates and substantial to the control of the computer and operating synapsize calculates and substantial to the control of the contro	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 nitial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed from the calculus.  Programming in Python 1  udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration  ng systems Windows and Linux. Users, rights, configuration, command line, networks, firewastems. Personal computer, workstation and supercomputers. Processor, memory, bus, do stems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation.	y to analyze maces, operations on n of infinite series cated among alterars are designed ourse covers bothing (NumPy and Series) and series system, file asystem, file asy	eroeconomic  a series, absolute series, according series, accor	phenomena  Z colute and co of integrals:  S. Microeco explanation of explanation of nted as well ges), data pre terface. Har riking with fi	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z rdware and les. Text ed	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software.  ditors: vi, emacs
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operating 2UNXAP Computer and operating 9rinciples of operating scommand interpreter (st	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 nitial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allowed from the calculus.  Programming in Python 1  udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration ng systems Windows and Linux. Users, rights, configuration, command line, networks, firew Introduction to UNIX systems. Personal computer, workstation and supercomputers. Processor, memory, bus, describes the processor in t	ee, operations on n of infinite serie cated among altrars are designed ourse covers bothing (NumPy and Serie system, file apad a process prince and a prince and a process prince and a	eroeconomic  series, absiss. 4. Theory  ernative use so that the element object-orie sciPy package  c, network in atributes, wo iorities. Stan	phenomena  Z colute and co of integrals:  S. Microeco explanation of explanation of explanation of the column of t	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z rdware and les. Text eco	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software. ditors: vi, emacs user interface
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) and their implication of the same calculus (real analyonament) and their implication of the same calculus (real analyonament) and their implication of the same calculus (real analyonament) and their implication of difference (Riemann definition), tectors (Riemann definition), tectors and markets in the does not require knowledded to the same calculus and their implication of	cons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 yesis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed see processes and makes more clear behaviour of the economic agents. Lectures and seminary days of calculus.  Programming in Python 1  udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration  ng systems Windows and Linux. Users, rights, configuration, command line, networks, firewaystems. Personal computer, workstation and supercomputers. Processor, memory, bus, do stems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. Finally bash and its programming (scripts). Controlling processes, process status, computer localized.	ee, operations on n of infinite serie cated among altrars are designed ourse covers bothing (NumPy and Serie system, file apad a process prince and a prince and a process prince and a	eroeconomic  series, absiss. 4. Theory  ernative use so that the element object-orie sciPy package  c, network in atributes, wo iorities. Stan	phenomena  Z colute and co of integrals:  S. Microeco explanation of explanation of explanation of the column of t	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z rdware and les. Text eco	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software. ditors: vi, emacs user interface
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operating 2UNXAP Computer and operating 9 Principles of operating 9 Principles of operating 9 Command interpreter (st X-windows. Computer ne hardware sharing, mail, st	cons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed as processes and makes more clear behaviour of the economic agents. Lectures and seminar alge of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration  ng systems Windows and Linux. Users, rights, configuration, command line, networks, firewaystems. Personal computer, workstation and supercomputers. Processor, memory, bus, downstems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. Finally bash and its programming (scripts). Controlling processes, process status, computer leads to the processes and protocols TCI and the	ee, operations on n of infinite serie cated among altrars are designed ourse covers bothing (NumPy and Serie system, file apad a process prince and a prince and a process prince and a	eroeconomic  series, absiss. 4. Theory  ernative use so that the element object-orie sciPy package  c, network in atributes, wo iorities. Stan	phenomena  Z colute and co of integrals:  S. Microeco explanation of explanation of explanation of the complete of the column of	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z rdware and les. Text ec Graphical of cr. Network	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software. ditors: vi, emacs user interface
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of difference and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operating Principles of operatings Command interpreter (st X-windows. Computer net hardware sharing, mail, st 18ZALG	cons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 nitial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation thiniques of integration and application of integrals, Generalized Riemann integral  Microeconomics  of theories, which help us to understand processes by which the scarce resources are allowed processes and makes more clear behaviour of the economic agents. Lectures and seminar age of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration  ng systems Windows and Linux. Users, rights, configuration, command line, networks, firew Introduction to UNIX  systems. Personal computer, workstation and supercomputers. Processor, memory, bus, do systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. Finall) bash and its programming (scripts). Controlling processes, process status, computer leastworks. Local computer networks. Global computer networks. Addresses and protocols TCI stop, etc. Network applications	y to analyze maces, operations on n of infinite series cated among alterars are designed ourse covers bothing (NumPy and Series) will evices, hard disk-file system, file apad a process previole. Network co	eroeconomic  a series, absis. 4. Theory  ernative use so that the element of the series of the serie	phenomena  Z colute and co of integrals:  S. Microeco explanation of explanation of terface. Har riking with fi dard tools.  If a compute	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software. ditors: vi, emacs user interface a services:
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of difference and and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operating 2UNXAP Computer and operating Principles of operatings of command interpreter (st X-windows. Computer ne hardware sharing, mail, st 18ZALG This course is devoted to	ons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation iniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allowed se processes and makes more clear behaviour of the economic agents. Lectures and seminated of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration and systems Windows and Linux. Users, rights, configuration, command line, networks, firewasterns. Personal computer, workstation and supercomputers. Processor, memory, bus, downstems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. Finally bash and its programming (scripts). Controlling processes, process status, computer leastworks. Local computer networks. Global computer networks. Addresses and protocols TCI scope, etc. Network applications  Basics of Algorithmization a selected algorithms and methods for algorithm design. This course intruduces selected methods and methods for algorithm design.	y to analyze maces, operations on n of infinite series cated among alterars are designed ourse covers bothing (NumPy and Series) will evices, hard disk-file system, file apad a process preceived.	eroeconomic  a series, absis. 4. Theory  ernative use so that the element of the series of the serie	phenomena  Z colute and co of integrals:  S. Microeco explanation of explanation of terface. Har riking with fi dard tools.  If a compute	ZK Z,ZK conditional of primitives, of microeco Z as function of cocessing a Z KZ Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software. ditors: vi, emacs user interface a services:
AS-AD and their implication and subsequently to use 01MAN Basic calculus (real analyonament) 01MANZ 01MANZ 1. Continuation of differe Real and complex power (Riemann definition), tectors and markets in the does not require knowled 18PPY1 This course introduces st paradigms. The following 00PT 18OS Administration of operating Principles of operating SC Computer and operating Principles of operating structure of the Action of the Acti	cons for economic policies. The learning outcomes of the course is to equip students with ability them under the conditions of modern economic life.  Calculus 1 ysis, functions of one real variable, differential calculus).  Calculus 1, exam  Calculus 2 ntial calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence series, the Cauchy-Hadamard theorem, expansion of function into power series, summation iniques of integration and application of integrals, Generalized Riemann integral  Microeconomics of theories, which help us to understand processes by which the scarce resources are allowed se processes and makes more clear behaviour of the economic agents. Lectures and seminated of calculus.  Programming in Python 1 udents to advanced features of the Python language and common scientific packages. The corporation of the course describes the use of Python in the fields of scientific and technical computing Preparatory Week  Operating Systems Administration The systems Windows and Linux. Users, rights, configuration, command line, networks, firewasterns. Personal computer, workstation and supercomputers. Processor, memory, bus, downstems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. Finally bash and its programming (scripts). Controlling processes, process status, computer leastworks. Local computer networks. Global computer networks. Addresses and protocols TCI step, etc. Network applications  Basics of Algorithmization	y to analyze mace by to analyze mace see, operations on a find of infinite series cated among altered are are designed ourse covers bothing (NumPy and Series system, file ayard a process prediction of the designed of the designed are covered by the system of the syste	eroeconomic  a series, absis. 4. Theory  ernative use so that the elements of the series of the seri	phenomena  Zolute and coof integrals:  S. Microeco explanation of the algorithm of the algorithm and t	ZK Z,ZK conditional of primitives, of microeco Z as function roccessing a Z KZ Z/ZK rdware and les. Text ed Graphical der. Network Z,ZK rithm comp	4  4  8 convergence 3. definite integra  4  plains the role of conomic concepts  2  nal programming and visualization  2  2  I software. ditors: vi, emacs user interface a services:  4  plexity.  4

1P+1C

2+2

L

4

Ζ

Z,ZK

Introduction to UNIX
Milan Kucha ik Milan Kucha ik (Gar.)

Vladimír Jarý, Jan Tomsa, Petr Pauš, František Vold ich, Miroslav Virius, František Gašpar, Zuzana Pet í ková **Vladimír Jarý** Miroslav Virius (Gar.)

**Basics of Algorithmization** 

12UNXAP

18ZALG

Code of the group: BSPAIPV2

Name of the group: BS P\_AIPVB 2nd year

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 11 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
02FY1	Physics 1 Jaroslav Biel ík Jaroslav Biel ík Jaroslav Biel ík (Gar.)	Z,ZK	4	2P+2C	Z	Р
02FY2	Physics 2 Jaroslav Biel ík Jaroslav Biel ík Jaroslav Biel ík (Gar.)	Z,ZK	4	2P+2C	L	Р
18MAK2	Macroeconomics 2 Quang Van Tran Quang Van Tran (Gar.)	Z,ZK	4	2+2	Z	Р
01ANB3	Calculus B 3 Miroslav Kolá, Milan Krbálek Milan Krbálek Miroslav Kolá (Gar.)	Z,ZK	8	4P+4C		Р
01ANB4	Calculus B 4 Ji í Mikyška, Miroslav Kolá <b>Ji í Mikyška</b> Milan Krbálek (Gar.)	Z,ZK	6	2P+4C		Р
12NME1	Numerical Methods 1 Pavel Váchal Pavel Váchal (Gar.)	Z,ZK	4	2+2	L	Р
18PRC1	Programming in C++ 1 Vladimír Jarý, Miroslav Virius Miroslav Virius (Gar.)	Z	4	2+2	Z	Р
18PRC2	Programming in C++ 2 Jakub Klinkovský, Vladimír Jarý, Miroslav Virius Miroslav Virius (Gar.) Virius (Gar.)	KZ	4	2+2	L	Р
18PMTL	Programming in MATLAB Quang Van Tran, Mat j Pokorný, Jaromír Kukal Quang Van Tran Jaromír Kukal (Gar.)	KZ	4	4C	Z	Р
01PSL	LaTeX - Publication Instrument Petr Ambrož Petr Ambrož (Gar.)	Z	2	0+2	L	Р
18GUI	Construction og Grafical user nterface Vladimír Jarý Vladimír Jarý Vladimír Jarý (Gar.)	Z	2	0P + 2C	L	Р
02FY1 Pr	e courses of this group of Study Plan: Code=BSPAIPV2 Name= nysics 1 ications of mechanics, waves and thermodynamics? basic level. The lecture is supple			2	Z,ZK monstration of	4 selected
l l	hysics 2				Z,ZK	4
18MAK2 Macroeconomics II extends economic growth, especially	y and magnetism, modern physics. The lecture is supplemented with practical investig- acroeconomics 2 theoretical knowledge acquired from Macroeconomics I of its students with the latest y those with an emphasis on the role of human capital and technological progress. Fur mic models derived from microeconomic behavior of subjects and economics and their re-	knowledge of cont	emporary nuces studer	nacroeconol	Z,ZK mics. They are on principles of	4 models of economic
Functional sequences an Expansion, Taylor's theorem equation and exact equation side, Euler differential equation set, completeness of spaceseries and their convergence Taylor series, elementary te 01ANB4  Ca	alculus B 3 Indical series - convergence range, criteria of uniform convergence, continuity, limit, differential equations - equations of first order (method of integration factor) and equations of higher order (fundamental system, reduction of order, variation of pation). 3. Metric spaces - metric, norm, scalar product, neighborhood, interior and exterece, Hilbert spaces. Orthogonal polynomials. Complete orthogonal systems. 4. Fourier sectors. 5. Differential calculus of functions of several variables - limit, continuity, partial and earms of vector analysis, Jacobi matrix. 6. Functions defined implicitly by one or several calculus B 4  Experimental calculus of functional finite vector of the particulus of the patients of t	etor, equation of Be arameters, equation ior points, boundar eries - expansion of directional derivat equations. vy ady funkce vice § Základy teorie m	rnoulli, sepans with consing young, isolo functions in the functions in the functions in the functions in the function of the	tional series aration of va stant coeffici ated and no nto Fourier s t, total deriv	riables, homogents and special on-isolated pointeries, trigonomatives and tangon, and tang	eneous al right-har it, boundar etric Fouri gent plane, 6 i, zám na níry. [7]
			Lovibo o Lo	hocauoova	v to Limita co	oiitoet a
Integrální po et funkce více derivace integrálu podle par	e prom nných - Riemann v a Lebesgue v integrál, základní vlastnosti, Fubiniova v ta rametru. [8] Integrály po k ivkách a plochách. Integrální v ty. umerical Methods 1	, v ta o substituci.	Levillo a Le		Z,ZK	Ojitost a

important for physicists (ordinary differential equations, random numbers) are included in addition to the basic numerical methods. Integrated computational environment MATLAB is used as a principle programming language as a demonstration tool. The seminars are held in computer laboratory.

18PRC1 Programming in C++ 1 This course covers mainly the C programming language and non-object oriented features of the C++ language.

Z 4

18PRC2 Programming in C++ 2

ΚZ 4

This course covers the object oriented programming and othesr advanced constructs in the C+;+ programming language and the Standard Template Library.

18PMTL Programming in MATLAB

ΚZ 4

Introducing Matlab environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analysis, statistics, algorithmization and geometric representation of results.

01PSL LaTeX - Publication Instrument Z 2

The course is devoted to the basics and facilities of computer typography, particularly to the system LaTeX 18GUI Construction og Grafical user nterface

Z 2

The course introduces to the graphical user interface, its design and creation. Practical problems and their solutions will be demonstrated in the exercises. Students will learn to create simple RAD applications

Code of the group: BSPAIPV3

Name of the group: BS P\_AIPVB 3rd year

Requirement credits in the group:

Requirement courses in the group: In this group you have to complete at least 16 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
18AOV	Applied operational research Quang Van Tran, Adam Borovi ka Quang Van Tran Quang Van Tran (Gar.)	Z,ZK	4	2P+2C	L	Р
18BPSE1	Bachelor Thesis 1 Milan Kucha ík, Radek Fu ík, Dana Majerová <b>Milan Kucha ík</b> Milan Kucha ík (Gar.)	Z	5	0+5	Z	Р
18BPSE2	Bachelor Thesis 2 Milan Kucha ík, Radek Fu ík, Dana Majerová <b>Milan Kucha ík</b> Milan Kucha ík (Gar.)	Z	10	0+10	L	Р
18EKN	Econometrics Quang Van Tran, Radek H ebík Quang Van Tran Quang Van Tran (Gar.)	Z,ZK	4	2P+2C	L	Р
01LIP	Linear Programming Jan Volec Jan Volec (Gar.)	Z,ZK	3	2+1	Z	Р
01PGR1	Computer Graphics 1 Pavel Strachota Pavel Strachota (Gar.)	Z,ZK	2	1P+1C		Р
01PGR2	Computer Graphics 2 Pavel Strachota Pavel Strachota (Gar.)	Z,ZK	2	1P+1C		Р
01PRST	Probability and Statistics Tomáš Hobza Tomáš Hobza Tomáš Hobza (Gar.)	Z,ZK	4	3+1	Z	Р
18PJ	Programming in Java Miroslav Virius Miroslav Virius (Gar.)	Z,ZK	5	2P+2C	Z	Р
18PW	Web environment and markup languages Pavel Eichler Dana Majerová Dana Majerová (Gar.)	KZ	2	2C	Z	Р
18SBAK	Bachelor Seminar Quang Van Tran, Milan Kucha ík, Jaromír Kukal, Dana Majerová <b>Milan</b> <b>Kucha ík</b> Milan Kucha ík (Gar.)	Z	2	0+2	L	Р
01TKO	Theory of Codes  Edita Pelantová, Jan Volec Edita Pelantová Jan Volec (Gar.)	ZK	2	2P+0C	L	Р
18INTA	Development of internet applications  Jakub Klinkovský, Dana Majerová Dana Majerová (Gar.)	KZ	4	2P+2C	L	Р
12UPF1	Introduction to Computational Physics 1 Milan Kucha ík, Richard Liska Milan Kucha ík Milan Kucha ík (Gar.)	Z,ZK	2	1P+1C	Z	Р
12UPF2	Introduction to Computational Physics 2 Milan Kucha ík, Richard Liska Milan Kucha ík Milan Kucha ík (Gar.)	Z,ZK	2	1P+1C	L	Р
12ZMDT	Measurement and Data Processing Ivan Procházka, Josef Blažej Josef Blažej Ivan Procházka (Gar.)	Z,ZK	2	1P+1C	Z	Р

Characteristics of the courses of this group of Study Plan: Code=BSPAIPV3 Name=BS P\_AIPVB 3rd year 18AOV

Applied operational research Z,ZK The course is an introduction course to selected models and methods for economic decision making. The main attention is given to the introduction to the methods and possibilities of their real applications and problem solving by means of the current software products. 18BPSE1 **Bachelor Thesis 1** The bachelor project is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by the project supervisor during common regular meetings and discussions. 18BPSE2 **Bachelor Thesis 2** The bachelor project is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by the project supervisor during common regular meetings and discussions. 18EKN Z,ZK **Econometrics** Econometrics is based on economic theory and the relations between economic quantities are expressed by mathematical tools and observed data from economic reality. The course covers basic instruments of econometric analysis as the basic econometric model, the generalized model, the system of simultaneous equations and instruments for econometric model verification.

01LIP Linear Programming Z,ZK We study special problems about constrained extremal problems for multivariable functions, where the function is linear and the constraints are given by linear equations and/or linear

inequalities. 01PGR1 Computer Graphics 1 Z,ZK

The 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 technologies. Further, a survey of fundamental problems in 2D computer graphics is given together with their solutions. Focus is put on mathematical description of problems and explanation of the corresponding algorithms using knowledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications of computer graphics approaches in the process of authoring scientific documents and presentations.

01PGR2 Computer Graphics 2

The second part of the two-semester "Computer Graphics" course begins with a brief introduction to signal theory in the context of aliasing - a phenomenon ubiquitous in computer graphics. Further, a well structured survey of fundamental problems in 3D computer graphics is given together with their solutions, from the description of a 3D scene to its realistic rendering. Focus is put on mathematical description of problems and explanation of the corresponding algorithms using knowledge previously obtained in a variety of subjects available at FNSPE. The algorithm implementation aspect such as data structures design etc. is also a matter of concern. In the last lecture, a number of theoretical concepts are demonstrated using Blender, an open-source 3D modeling and rendering software instrument.

01PRST	Probability and Statistics	Z,ZK	4
It is a basic course	e of probability theory and mathematical statistics. The probability theory is build gradually beginning with the classical definition	1 '	ne Kolmogorov
definition. The noti	ions as random variable, distribution function of random variable and characteristics of random variable are treated and basic lir	mit theorems are star	ted and proved.
On the basis of thi	is theory the basic methods of mathematical statistics such as estimation of distribution parameters and hypothesis testing are	explained.	
18PJ	Programming in Java	Z,ZK	5
This course is dev	oted to the Java platform and to the development of the basic types of applications for this platform.	•	
18PW	Web environment and markup languages	KZ	2
The course introdu	uces students to fundamental principles and best practices for web design with respect to technical functionality, informational v	alue, readability and	usability.
18SBAK	Bachelor Seminar	Z	2
Seminar devoted t	to preparation of the bachelor's thesis and the presentation of the result. Students present their running results.		
01TKO	Theory of Codes	ZK	2
Algebraic methods	s used in error detecting and error correcting codes.	•	•
18INTA	Development of internet applications	KZ	4
The lectures provi	ide an overview of modern technologies for the development of web applications. Students will learn basic web languages and c	concepts (HTML, UR	L, etc.) and the
will also be introdu	uced to relational database systems. The tutorials are dedicated to practical examples of building web applications, from the sim	plest to more advan	ced. The cours
is oriented primari	ily towards backend technologies and using the Python languages, but covers also frontend frameworks and JavaScript.		
12UPF1	Introduction to Computational Physics 1	Z,ZK	2
Numerical simulat	tion and its role in physics, methodology of writing computer codes. Computer languages for physics. Numerical libraries and pro	ogram libraries for ph	ysics. Compute
tools for scientific	visualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-perforn	nance computing, pa	rallel computing
software for parall	el simulations. Databases of scientific information, scientist evaluation, citation analysis.		
12UPF2	Introduction to Computational Physics 2	Z,ZK	2
Nonlinear models,	, complex systems, chaotic systems, fractals and their applications in physics. Artificial intelligence methods: neural networks, m	nachine learning, ger	netic algorithms
expert systems an	nd their applications in physics. Quantum computing. Virtual reality.		
12ZMDT	Measurement and Data Processing	Z,ZK	2
Basic knowledge f	for the measurements and data processing and result interpretation: errors, precision, accuracy, normal distribution and its prop	eties, data fitting, se	paration of the
signal from the no	ise.		

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 0

The role of the block: PV

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

Credits in the group: 0

Note on the group:

Only one of these courses is obligatory.

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 <b>Jana Ková ová</b>	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 Hají ek <b>Jana Ková ová</b>	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	the basics of micro- and macroeconomics.		
00ETV	Ethics of Science and Technology	Z	1
00RET	Rhetoric	Z	1
The course is focused of	on 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 nonverl	oal 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:

04XAPZK

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
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 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.)  Spanish for Advanced Students Examination Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo	ZK	4		Z	PV
04XSZZK	Spanish for Beginners Examination Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	ZK	3		L	PV

04XAMZK English for Intermediate Students Examination ZK The course content is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts - written (100 min) and oral (20-30 min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three English courses.

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

English for Advanced Students Examination The course content is the examination as given by the study plan. The student is supposed to demonstrate mastering the AP3 syllabus and the ability to apply their knowledge obtained in the three AP courses. The examination consists of 2 parts - written (100 min) and oral (30 min) and includes also oral presentation of a topic from the student's field of study.

Czech for Foreigners Beginners - Examination

7K

The course content is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the 04XCESZ1,2,3 courses and can only be taken after successful completion of all three courses. Detailed information is to be obtained from the teacher.

04XCESMZK Czech for Intermediate Students Examination

The course content is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the CESM1,2,3 courses and can only be taken after successful completion of the 3 courses. Detailed information is to be obtained from the teacher.

04XCESPZK Czech for Foreign Students - Advanced Examination

The course content is the examination as given by the study plan. The examination consisting of a written and oral part covers all the topics of the CESP1.2.3 courses and can only be taken after successful completion of the 3 courses. Detailed information is to be obtained from the teacher.

French for Intermediate Students Examination

The content is the examination as given by the study programme. The whole French programme is ended with an examination covering the contents of FM1-FM3. The examination consists of a written and oral part and is organized according to Examination Instructions, a document available on the web.

04XFPZK French for Advanced Students Examination 7K

The whole French program is ended with an examination covering the contents of FP1-FP3. The examination consists of a written and/or an oral part and is organized according to

Examination Instructions, a document available on the web. Assessment of the presentation is included into the examination grading.

French for Beginners Examination The content is the examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination is ruled by the document

4

Instruction for examination. Its content covers the levels FZ1 - FZ5. 04XNMZK German for Intermediate Students Examination

The course content is the examination as given by the study plan. The whole German for Intermediate Students Course is completed by an examination consisting of two parts - written and oral, which cover the courses NM1 - NM3. The oral part follows after passing the written part successfully and after obtaining the 04NM3 assessment. More detailed information is to be obtained from the teacher.

04XNPZK German for Advanced Students Examination

The course content is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examination consisting of two parts - written and oral, which cover the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungraded assessment. More detailed information is to be obtained from the teacher.

04XRMZK	Russian for Intermediate Students Examination	ZK	4
-	s the examination as given by the study plan. The course is completed by taking a written and oral examination testing the know	1 1	
- RM3. Students are	eligible for the oral examination only after a prior pass in RM3 and a successful written examination. Students are given instruc	tions by the teache	er.
04XRPZK	Russian for Advanced Students Examination	ZK	4
The course content is	s the examination as given by the study plan. The course is completed by taking a written and oral examination testing the know	vledge and skills a	cquired in RP1
- RP3. Students are	eligible for the oral examination only after a prior pass in RP3 and a successful written examination. Students are given instruct	ions by the teacher	ī.
04XRZZK	Russian for Beginners Examination	ZK	3
The course content is	s the examination as given by the study plan. The course is completed by taking a written and oral examination testing the know	vledge and skills a	cquired 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 instruction	ons by the teacher	-
04XSMZK	Spanish for Intermediate Students Examination	ZK	4
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 writte	en part, students w	Il have obtained
non-graded assessm	ent for course SM3.Oral examination follows the written part.		
04XSPZK	Spanish for Advanced Students Examination	ZK	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 or	al part is having
passed the written te	st. Examination content is based on syllabi of courses SP1, SP2, and SP3 or on an individual study plan of the student.		
04XSZZK	Spanish for Beginners Examination	ZK	3
The course content is	s the examination as given by the study plan. Examination consists of two parts - written and oral. Student can register for oral	examination only if	he/she has
passed the written ex	ramination 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: BSPAIPVV

Name of the group: BS P\_AIPVB 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
12AUX	Administration of UNIX System  Milan Ši or Milan Ši or (Gar.)	KZ	2	2+0	L	V
18AAIO	Applications of Al for image processing Petr Kubera Petr Kubera (Gar.)	KZ	3	5XD		V
02DEF2	History of Physics 2 Igor Jex Miroslav Myška Igor Jex (Gar.)	Z	2	2+0	L	V
01DIMA3	Discrete Mathematics 3 Lubomíra Dvo áková Lubomíra Dvo áková (Gar.)	ZK	2	2P+0C		V
11GNU	GNU Programming Martin Dráb Martin Dráb (Gar.)	KZ	4	2P+2C	L	V
01JEPR	Simple Compilers Zden k ulík Zden k ulík (Gar.)	Z	2	2	L	V
04AKS	English Conversation Jana Ková ová Jana Ková ová (Gar.)	Z	1	0+2	L	V
00MAM1	Essentials of High School Course 1 David Be	Z	1	0+1		V
00MAM2	Essentials of High School Math Course 2  Lukáš Heriban Severin Pošta Lukáš Heriban (Gar.)	Z	1	0+1		V
18NES1	Neural Networks 1 Zuzana Pet í ková <b>Zuzana Pet í ková</b>	KZ	5	2P+2C	L	V
18NES2	Neural Networks 2 František Vold ich, Zuzana Pet í ková Zuzana Pet í ková (Gar.)	KZ	3	0P+2C	L	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
18PROP	Practical training in programming Jakub Klinkovský Jakub Klinkovský Jakub Klinkovský (Gar.)	KZ	3	2C	Z	V
01PERI	Programming of Peripherals Devices Zden k ulík Zden k ulík (Gar.)	Z	2	2+0	Z	V
18PVP	Programming in Pascal Miroslav Virius Miroslav Virius (Gar.)	Z,ZK	4	2+2	L	V
18PPY2	Programming in Python 2 Jakub Klinkovský Jakub Klinkovský Jakub Klinkovský (Gar.)	Z	2	2S	Z	V
18PPY3	Programming in Python 3 Rudolf Pecinovský Jakub Klinkovský (Gar.)	Z	2	2C	L	V

18SVK	Student's Scientific Conference Kate ina Horaisová Kate ina Horaisová (Gar.)	Z	1	5 dní		V
TV-1	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
14TED	Creating Electronic Documents Aleš Materna, Ji í Martin ík Aleš Materna Aleš Materna (Gar.)	Z	2	26C		V
18UDB	Introduction to Databases Dana Majerová Dana Majerová Dana Majerová (Gar.)	Z	2	1P+1C	Z	V
17UING	Introduction to Engineering Jan Frýbort, Petr Haušild, Radek Mušálek Jan Frýbort (Gar.)	KZ	3	2P+1C	Z	V
18UQI	Introduction to quantum informatics Aleš Wodecki Aleš Wodecki (Gar.)	Z	3	2P	L	V
18UOA	Introduction into Object Oriented Architecture Rudolf Pecinovský Rudolf Pecinovský	Z,ZK	4	2P+2C	Z	V
01UOP	Introduction to Object Programming Zden k ulík Zden k ulík Zden k ulík (Gar.)	ZK	2	0+2		V
01UP1	Introduction to Probability 1 Jan Vybíral Jan Vybíral Jan Vybíral (Gar.)	Z,ZK	3	1P+1C		V
01UP2	Introduction to Probability 2 Milan Krbálek, Michaela Krbálková Michaela Krbálková Milan Krbálek (Gar.)	Z,ZK	3	1P+1C		V
D1USU	Introduction to Machine Learning Ji í Franc, Jan Flusser Ji í Franc Jan Flusser (Gar.)	Z,ZK	4	2P+2C		V
12PYTH	Scientific Programming in Python Pavel Váchal, Jakub Urban Pavel Váchal Pavel Váchal (Gar.)	Z	2	0+2	L	V
18CLOUD	Virtualization and cloud technologies  Jakub Klinkovský Jakub Klinkovský (Gar.)	KZ	3	1P+1C	L	V

12AUX	Administration of UNIX System	KZ	2
Basic and more adv	anced administration of Unix operating system		
18AAIO	Applications of AI for image processing	KZ	3
02DEF2	History of Physics 2	Z	2
Development of clas	sical mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach.	. Electricity and magr	netism -
electrostatics, galvar	iism, electrodynamics and electromagnetism, Faraday and Maxwell. Thermodynamics and its laws, statistical physics, Boltzm	ann. The birth of mod	dern quantum
and relativistic physi	cs, Planck and Einstein. Discovery of radioaktivity, structure of atom, atomic nucleus, Rutherford and Bohr. The way to nucleai	r energy, Elementary	particles,
standard model. The	concept of Nature and Universe of today.		
01DIMA3	Discrete Mathematics 3	ZK	2
Students get to know	problems and methods of their solving from various parts of discrete mathematics. The seminar includes individual problem	solving of ones own	choice from the
given literature.			
11GNU	GNU Programming	KZ	4
The aim of the cours	e is to introduce students into the Linux system environment and therein used GNU utilities and programming tools to such a	level, that they would	d be able to use
these tools for creati	ng scripts and programs for processing acquired or simulated data for their experiments in physics with the use of the facultys H	yperion cluster (howe	ever the learne
skills could of course	e be applied to any Linux system).		
01JEPR	Simple Compilers	Z	2
Lexical and syntax a	nalysis, code generation, simple optimizations, development environments, reflection.		
04AKS	English Conversation	Z	1
The course will deve	lop the student's communication skills acquired throughout their previous studies. It aims to improve all aspects of oral comm	unication. The stude	nt will develop
their vocabulary for	rarious communication situations and will master their communication strategy. They will also practise their listening skills in o	rder to better follow a	nd participate
in discussions. The	tudent will be trained to express their ideas clearly and according to current English usage, and become a more confident spo	eaker.	
00MAM1	Essentials of High School Course 1	Z	1
Students are introdu	ced to mathematical concepts and methods used in the introductory physics course.	1 1	
00MAM2	Essentials of High School Math Course 2	Z	1
Review of basics of	nigh school mathematics.	1 1	
18NES1	Neural Networks 1	KZ	5
	e "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and	d other related machi	ne learning
	is to teach students how to apply these models and methods to solve practical tasks.		J
ieciiiiques. The goa			
	Neural Networks 2	l KZ	3
18NES2	Neural Networks 2  = "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m	1	•
18NES2	Neural Networks 2 e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m	1	•
18NES2 The aim of the cours tasks.	e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m	1	•
18NES2 The aim of the cours tasks. 01SITE1	e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m  Computer Networks 1	odels and methods to	solve practica
18NES2 The aim of the cours tasks. 01SITE1 Understanding the h	e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m	odels and methods to	2 solve practica
18NES2 The aim of the cours tasks. 01SITE1 Understanding the h	e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m  Computer Networks 1  istory and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Netwo	odels and methods to	2 Il exercises with ey infrastructur
18NES2 The aim of the cours tasks. 01SITE1 Understanding the h	e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m  Computer Networks 1  istory and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Networks services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification and Network security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the	odels and methods to	2 solve practica 2 sercises with
18NES2 The aim of the cours asks. 01SITE1 Understanding the hTCP/IP communicati (PKI). Use in practice	e "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these m  Computer Networks 1  istory and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Netwo ons. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification	Z  ork protocols, practical authorities, public kes esrial control lines,	2 al exercises with ey infrastructur modems)
18NES2 The aim of the cours tasks. 01SITE1 Understanding the h TCP/IP communicati (PKI). Use in practice 01SITE2 Understanding the h	Computer Networks 1 istory and present network (LAN, WAN, use the principles and technologies). Architecture of reference model ISO/OSI. Networks. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification e. Network security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the Computer Networks 2	Z  ork protocols, practical authorities, public ket eserial control lines,  Z  ork protocols, practical authorities, public ket eserial control lines,  Z  ork protocols, practical	2 al exercises witely infrastructure modems) 2 al exercises witely infrastructure modems witely infrastructure modems witely infrastructure modems witely infrastructure modems witely infrastructure witely witely infrastructure witely infrastructure witely witely infrastructure witely wi

18PROP	Practical training in programming	KZ	3
1 -	is to understand advanced topics related to programming, code design and software project development. Students will prac-		
	real-world examples. Emphasis is put on the review of freely available software tools that can improve the programmers work	efficiency and en	sure high quality
of the final source code			
01PERI	Programming of Peripherals Devices	Z	2
Memory organization, i	nput and output ports, computer bus. Software libraries for computer peripherals, 3D graphic libraries. Principles of periphera		
18PVP	Programming in Pascal	Z,ZK	4
This lecture is intended	mainly for students, with little or no experience in programming. It familiarizes the students with the basic concepts in progra	mming and with the	ne Pascal
programming language			
18PPY2	Programming in Python 2	Z	2
This course introduces	students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar w	here each preser	ited topic is
accompanied by a short	t demo of a real-world application in the specific field.		
18PPY3	Programming in Python 3	Z	2
This advanced course i	s intended for students who have basic experience with programming in Python and using its libraries. It introduces students to	advanced concer	ots of the Python
language and modules	they are based on.		
18SVK	Student's Scientific Conference	Z	1
This is the active partic	pation of the student in one of the approved student conferences. The list of such conferences is defined by the course guara	antor.	
TV-1	Physical Education	Z	1
TV-2	Physical Education	Z	1
TV-3	Physical education	Z	1
TV-4		Z	1
	Physical education		
14TED	Creating Electronic Documents	Z	2
_	and presenting student theses. Individual exercises focus on creating and formatting texts, equations, charts, tables, present	ations and entire	documents in an
office suite.			
18UDB	Introduction to Databases	Z	2
	luction to relational database systems. Students will learn basic concepts and how to design a relational database. Students w	vill be able to work	with data using
	for the seminar work (ERA model of relational database and its implementation in SQL).		
17UING	Introduction to Engineering	KZ	3
-	troduction to engineering skills. Students should gain general engineering skills at basic level (e.g. material properties and be	havior, basics of i	manufacturing
	assurance, environmental impacts,). In addition, the introduction to scientific work and technical drawing will be included.		
18UQI	Introduction to quantum informatics	Z	3
	as been on the rise for years. In this course, we explore the basics of quantum information theory with a strong emphasis on		-
	rtant quantum principles that lead to the so called quantum advantage and discuss many important quantum algorithms with	the requisite amou	unt of theoretical
underpinning.			
18UOA	Introduction into Object Oriented Architecture	Z,ZK	4
01UOP	Introduction to Object Programming	ZK	2
	mming languages. Object oriented programming libraries for graphics, databases and distributed systems.		
01UP1	Introduction to Probability 1	Z,ZK	3
	te set of possible results, classical probability, independent random events 2.Probability and combinatorics 3.Probability and		•
	y, Bayes theorem, medical diagnosis, Simpsons paradox 5.Random variable with discrete state space, its distribution and me	an value 6.Proble	ms involving the
calculation of mean val	ue 7.Probabilistic method in graph theory 8.Random algorithms, Morris algorithm and its variants		
01UP2	Introduction to Probability 2	Z,ZK	3
One-dimensional cor	ntinuous random variable and its statistical description. 2. Distribution function and probability density. 3. Axiomatic introductio	n of probability an	d connection to
-	nerical characteristics of continuous random variables. 5. Selected variants of continuous distributions and their characteristic	s. 6. Elementary n	nethods for point
	ing pseudorandom numbers from the selected distribution.		
01USU	Introduction to Machine Learning	Z,ZK	4
	is to provide a broad introduction to machine learning, data mining and statistical image recognition. Main attention is paid to t		_
	llysis and dimensionality reduction. The lectures and theory explanation is accompanied by examples of experiments and pra		. Exercises use
	puter labs with emphasis on the implementation and use of machine learning algorithms applied to real data from practical pr		
12PYTH	Scientific Programming in Python	Z	2
	s to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is p		
1	s performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or stude		
	earch. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented of		_
- ·	se focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciF	'y and the Matplot	ilib graphics
	generate efficient code, how to combine Python with other languages, what tools are available.		
18CLOUD	Virtualization and cloud technologies	KZ	3
_	is to introduce the principles and technological foundations of cloud systems. Students will be introduced to the architectures	-	
	tion and they will learn how to use these technologies in practice. A fundamental part of the course is using containers, which		
technology for managin	g complex software systems. The practical part of the course covers tools for automatic configuration, testing, monitoring and dep	oloyment of virtuali	zed applications.

Code of the group: BSPJAZYKYZAP Name of the group: BS P jazyky zap 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
04XAM1	English for Intermediate Students M1	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	2S	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 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+2	Z	V
04XFP2	French for Advanced Students P2 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+2	L	V
04XFP3	French for Advanded Students P3  V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+2	Z	V
04XFZ1	French for Beginners Z1 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	L	V
04XFZ2	French for Beginners Z2 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	Z	V
04XFZ3	French for Beginners Z3 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	L	V
04XFZ4	French for Beginners Z4 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	Z	V
04XFZ5	French for Beginners Z5 V ra Šlechtová V ra Šlechtová (Gar.)	Z	2	0+4	L	V
04XNM2	German for Intermediate Students M2 Miloslava echová Miloslava echová (Gar.)	Z	2	0+2	L	V
04XNM1	German for Intermediate Students M1  Miloslava echová Miloslava echová (Gar.)	Z	2	0+2	Z	V
04XNM3	German for Intermediate Students M3  Miloslava echová Miloslava echová (Gar.)	Z	2	0+2	Z	V
04XNP1	German for Advanced Students P1 Miloslava echová Miloslava echová (Gar.)	Z	2	0+2	Z	V
04XNP2	German for Advanced Students P2  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  Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+2	Z	V
04XSP1	Spanish for Advanced Students P1  Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	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	٧

017.621	<b>Beatriz Vadillo Gonzalo</b> Beatriz Vadillo Gonzalo (Gar.)	_	_	011	_	'
04XSZ5	Spanish for Beginners Z5 Beatriz Vadillo Gonzalo Beatriz Vadillo Gonzalo (Gar.)	Z	2	0+4	L	V
Characteristics of the	courses of this group of Study Plan: Code=BSPJAZYKYZAP N	Name=BS P ja	azyky zap	)		
04XAM1 En	glish for Intermediate Students M1				Z	2
The course is designed for s	tudents who have successfully completed the full secondary school English language of	course at least at	the A2 level of	of the Com	mon Europe	an Framework
of Reference for Languages	(CEFR). It provides an introduction into English for Specific and Academic Purposes (I	ESP, EAP), i.e., in	ito fundamen	itals of voca	abulary and	style typical of
professional oral and written	communication situations. Thus it covers topics related to the student's life and needs	as well as topics	of subtechni	cal interest	. Attention is	s also paid to
extending the knowledge of	grammar issues used in EAP.					
04XAM2 En	glish for Intermediate Students M2				Z	2
The AM2 course expects the	e student to have completed the AM1 course. It develops their skills for work with subte	chnical texts, focu	using also mo	ore on spec	ific gramma	r, functions,
and lexical items typical of E	SP and EAP (e.g., definition, existence and classification of phenomena, object descripti	ons). Part of the c	ourse is also	guided writ	ing. If neces	sary, grammar
revision is included.						
04XAM3 En	glish for Intermediate Students M3				Z	2
The course develops the skil	Is that enable students to cope with features typical of professional style. Increasing atter	ntion is paid to dev	veloping subt	echnical vo	cabulary an	d independent
understanding of profession	al texts. Great emphasis is placed on distinguishing different levels of formal and inform	nal oral and writte	n communica	ation and th	eir appropri	ate Czech
	includes studying abstracts and rules for writing them as well as basic rules for prepar	ing and giving a s	short present	ation on a	chosen topi	related to the
student's field.						
04XAP1 En	glish for Advanced Students P1				Z	2
_	students who have successfully completed the full secondary school English language					
	- CEFR). It provides an introduction into English for Specific and Academic Purposes (				•	
	f professional oral and written communication situations (fundamentals of terms in mat				•	
	written communication on topics related to the undergraduate's life and needs. It develop	s skills for free pro	ofessional wr	iting (writing	g a CV, lette	of application,
	revision of selected grammar topics is included.					
	glish for Advanced Students P2				Z	2
	AP1, thus extending the student's skills for working with subtechnical texts, and even	•				•
	entrates on chosen grammar topics, but mainly intends to develop understanding of syn				, ,	
	ble, a case study). Increasing emphasis is placed on the undergraduate's independent			•		•
	lent's subtechnical vocabulary, and includes fundamental notions of chosen branches c	of science. It is foo	used on forn	nal writing i	ncluding the	sentence and
	cohesion and coherence in texts.					
	glish for Advanced Students P3				Z	2
	AP2 and expects the student to work without any guidance with authentic professional r		•		•	
	nctions (e.g., expressing an opinion, agreement, and objections; taking part in discussion		•	•	,	
	a given or chosen topic and presenting it. The course places emphasis on distinguishing	g levels of formal	and informal	language i	ootn in orai	and written
communication.					_	
	ech for Foreigners - Beginners 1			1.	Z	2
_	students of the English programme. Students will become acquainted with the main cha			•		
	speaking skills. The course focuses on pronunciation exercises, simple social phrases,	and oral and writ	ten commun	cation in th	ie most com	imon everyday
i situations. The course cover	s roughly lessons 1-3 of estina Express (Czech Express) by L. Holá and P. Bo ilová.					

04XCESZ2 Czech for Foreigners - Beginners 2 The language and communication competences acquired in CESZ1 are further developed. Students deepen their knowledge of the declension and or communication competences acquired in CESZ1 are further developed.	Z conjugation syste	2 m and practise
basic communication topics. The course covers roughly lessons 3-5 in Czech Express by L. Holá and P. Bo ilová.	,g	
04XCESZ3 Czech for Foreigners - Beginners 3	Z	2
The course further develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses of fixing correct pronunciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce the course fixing correct pronunciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce the course fixing correct pronunciation and deepening grammar, features through practice, as well as introducing the Czech culture.		
frequent types of dialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers rough		
1.		
04XCESM1 Czech for Foreigners - Intermediate 1	Z	2
The course is focused on correct pronunciation, important morphological phenomena, prepositional phrases, and verb forms as well as on extending th social situations.	ie student's vocab	oulary for various
04XCESM2 Czech for Foreigners - Intermediate 2	Z	2
The course develops the topics covered in CESM1 and is then focused on more difficult grammar phenomena. It practices writing, speaking, and rea	ı	
in understanding common abbreviations, abbreviated words, and mathematical terms and formulas.		
04XCESM3 Czech for Foreigners - Intermediate 3	Z	2
The last course revises morphological topics covered earlier and extends the student's knowledge of more difficult language phenomena. It is especilexicology and on developing the student's writing skills.	ially focused on s	tylistics and
04XCESP1 Czech for Foreign Students - Advanced 1	7	2
The prerequisite of the course is very good knowledge of the Czech language, i.e., communicative competences at least at level B2 of the Common Et	- 1	_
It is focused partly on revision of standard language structures, but mainly on practising more complex grammatical structures typical of the style of standard language structures.	•	
basics of functional style of engineering and professional communication, both in spoken and written form. The topics include University Studies and	Student Life. Writ	tten practice
includes communication with teachers and faculty administrators.	7	0
04XCESP2   Czech for Foreigners - Advanced 2   This course extends the student's knowledge acquired in CESP1 and focuses on difficult language phenomena. It practises working with technical a	Z   nd specialist texts	2 s placing greater
emphasis on individual work.	na specialist texte	s placing greater
04XCESP3 Czech for Foreigners - Advanced 3	Z	2
The course develops the student's knowledge from CESP2. It includes working with authentic specialist materials, their interpretation and presentation	on, and, finally, pre	esentation of the
student's project. Writing skills necessary for professional communication are trained.		
04XFM1 French for Intermediate Students M1	Z	2
French - intermediate FM The objective of this three-semester course is to improve and further develop communication in the French language in bo will be able to communicate in social interaction and in academic, scientific and professional environment. They will be able to use the language to tr		
information and to solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, sy	-	
skills gained in previous study. The following topics are covered: University studies in our country and in France, writing of transactional letters, CV, per	-	
to an advert, French culture and geography, Paris. Topics of specialization: mathematics, physics. Reading technical and popular science texts, work	based on these to	
04XFM2   French for Intermediate Students M2	Z	2
Course FM2 builds on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science and scientific language (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science.		
scientists, artists and architects. Description of an object, device, shapes, dimensions, material.	chec and technolog	ogy, i renen
04XFM3 French for Intermediate Students M3	Z	2
The course is focused on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (		
participle structures, compound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-cl		
field of students' future 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 knowledge/experienceLonger monologues on topics /situations set for the examination are prepared. Text structure, cohesion and compared to the compared to th	•	n French articles
04XFP1 French for Advanced Students P1	Z	2
FP advanced course The objective of this three-semester course is to improve and further develop communication in the French language in both wi	ı	
be able to communicate in social interaction and in academic, scientific and work environment. They will be able to use the language to transmit general	eral and technical	information and
to solve problems. FP1 The course builds on and further develops linguistic competence acquired at secondary school. Difficult grammar topics are re	-	=
passé composé-imparfait, pronouns. The following specific topics are covered: University studies in our country and in France, writing of transactionar request, answer to an advert, environmental issues, success of French science and technology, chosen topics from French regional culture, Paris. Topi		
internet, physics, chemistry. Reading of technical and popular science texts, further work with these texts and interpretation.	ioo or opoolalizatio	manomano,
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 of	n given topics. Fe	atures typical of
technical and scientific communication are stressed (passive voice, nominalization, word formation).		
04XFP3 French for Advanded Students P3  The course is focused as a veterilization and improvement of acquired linguistic competence, skills and knowledge, and their use for communication in	Z	2
The course is focused on systemization and improvement of acquired linguistic competence, skills and knowledge, and their use for communication in skill - translation of shorter texts (both from and into the language). Writing of a paper and making oral presentation in-class. The paper generally covered to the contraction of the language of the course of the cours		-
topic. It is a creative work compiled from 3 French sources. Preparation of several set topics for oral examination.		
04XFZ1 French for Beginners Z1	Z	2
French for beginners 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 s	_	•
The course includes French for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able		=
level, actively using the knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda (Francouzština pro za áte ky). It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4: introductions,		-
giving the directions, simple instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronunciat	•	
04XFZ2 French for Beginners Z2	Z	2
The course is linking up with FZ1. Elementary linguistic knowledge and communication skills are expanded. The scope is given by lessons 8 - 13 of the scope is given b		
French for Beginners . Additional topics and skills are filled in from the textbook Espaces I, lesson 1 - 5 (introductions, invitation, welcoming, agreement thanking travelling man of France food expression of will wich order prohibition placeure). Correct propulgiation is practiced. Stress on order prohibition placeure.	_	
thanking, travelling, map of France, food, expression of will, wish, order, prohibition, pleasure). Correct pronunciation is practiced. Stress on oral comm How does the machine work? A few expressions concerning the study. Name of University and Faculty.	unication. Specific	cupius cuvered:
04XFZ3 French for Beginners Z3	Z	2
The course builts upon FZ2. Basic linguistic knowledge and skills are developed. The contents is given by lessons 14 - 18 of the textbook: Pravda - F	_	_
Topics, functions and situations are complemented from other materials. Stress is put on oral communication in dialogues and on reading, both for in	formation and lou	ıd as part of
pronunciation practice. Reading covers short adapted texts of general interest first, and later popular science texts.		

04XFZ4	French for Beginners Z4	Z	2
-	FZ3. Basic linguistic knowledge and skills are further developed. Oral communication and reading skills are practiced. The c		
	ktbook French for Beginners, and is expanded with topics and functions from other materials. Reading is developed from the lec ourse covers generals and specific topics: health- illness, sport, free time, environment, study, travelling in France, Paris, shop		0 0
	now to write CV, application, topics in mathematics, reading physics - mechanics, informatics, internet.	sping, irodinoi, di	o.o.iy ou.
04XFZ5	French for Beginners Z5	Z	2
•	FZ4 are further developed, as well as technical language. Students prepare a paper on a chosen popular science topic. The		
•	ered by lessons 24 - 26 of the textbook: Pravda-Pravdova, French for Beginners, and is complemented from other materials. I		
notes, success of Frenc subjunctive clauses, ger	h science and technology, information about France. Grammar is systemized and complemented with syntax (subordinate cla rund nassive	auses, typicai con	junctions,
04XNM2	German for Intermediate Students M2	Z	2
-	ther more complex grammatical structures and their application in communication based on technical texts, such as the relation	l l	
the world at the beginning	ng of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers and	car technology ef	tc. Students
-	mation and reading aloud, and appropriate language for various purposes in oral and written communication. The course system	natically revises ot	her grammatical
· · · · · · · · · · · · · · · · · · ·	or professional discourse (participles, relative clauses).	7	
04XNM1	German for Intermediate Students M1 rse is to level off the students' skills in the German language. The course focuses on revision of more difficult phenomena and	Z	he nassive) and
	es (e.g. importance of verb prefixes). In the lexical part, it covers topics referring to higher education in both the Czech Repub	· -	
•	gether with all necessary expressions and phrases, expressions and phrases needed to chemists, mathematicians, physicist		
terminology. It develops	communication on related topics and is aimed at correct pronunciation, grammatical correctness and understandability.		
04XNM3	German for Intermediate Students M3	Z	2
	ther more complex grammatical structures and their application in communication based on technical texts, such as the relation		٠, , ,
•	ng of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers and mation and reading aloud, and appropriate language for various purposes in oral and written communication. The course system		
•	or professional discourse (participles, relative clauses).	idilodily rovided of	or grammanear
04XNP1	German for Advanced Students P1	Z	2
This course requires go	od grammar knowledge, extended general vocabulary, and good communication skills acquired at secondary school to be lev	elled off at the be	eginning of the
	en focused on working with technical and scientific texts and practising reading techniques (skimming, scanning, reading for	-	
more difficult grammar st i.e., telephoning.	tructures necessary for understanding a subtechnical text (passive voice, participles, participle structures) and it also focuses on p	oractical everyday	communication,
04XNP2	German for Advanced Students P2	Z	2
-	estudents' skills in working with professional scientific texts (understanding, summarising, note-taking, interpreting) while extend	_	_
•	duces mathematical expressions and texts of nuclear power engineering. Increasing emphasis is placed on understanding and		
both written and oral (C)	V, letter of application, interview, scholarship), and more complex grammatical structures (i.e., subjunctive, indirect speech).		
04XNP3	German for Advanced Students P3	Z	2
	B main parts (general communicative situations, grammar and technical topics). Students will develop their vocabulary in a var r accidents, accident report, filling in a form, complaints). Based on presentations and technical and subtechnical texts, the vo	=	
•	ing, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used	, ,	
	rocess information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The		
practice to and from Ge	rman.		
04XRM1	Russian for Intermediate Students M1	Z	2
•	for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alphab		· ·
	nmunication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, aski nmar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement		
,	he course correspond approximately to the RZ3 course, but for half of the time allotted in the timetable.		
04XRM2	Russian for Intermediate Students M2	Z	2
	the RM1 course, its contents and scope correspond roughly to RZ4, however, for half of the time allotted in the timetable.	<u> </u>	
04XRM3	Russian for Intermediate Students M3	Z	2
The course develops the in the timetable.	e knowledge and skills acquired in RM1 and RM2 and its contents and scope are roughly at the same level as those of RZ5, ho	owever, for half of	the time allotted
04XRP1	Russian for Advanced Students P1	Z	2
	ent for the course is to achieve the B1 CEFR level. The objective of the course is revision of standard language structures, pra	ı	
· ·	ng the fundamentals of technical language and training writing skills.	<b>J</b>	
04XRP2	Russian for Advanced Students P2	Z	2
	RP1. It expands grammatical structures important for understanding technical texts (verbal adjectives, participles, passives,	verb aspects, spe	cific syntactic
	t on independent oral and written communication.		
04XRP3	Russian for Advanced Students P3	Z	2
	RP2 and is mainly focused on working with technical and scientific texts (reading comprehension, oral and written paraphras revious knowledge of general language at secondary level (listening, reading, correct communication in everyday situations).		
	dy is aimed at professional and technical skills (reading technical literature according to the students' specialization, oral and		
develop their subtechnic	cal vocabulary and practice quick and correct communication in professional situations. They will be able to both speak write a	accurately and wit	h confidence on
technical topics.			
04XRZ1	Russian for Beginners Z1	Z	2
•	he first stage of the five-semester programme, its final aim being reading and understanding professional texts written in Russ or both reading and writing skills) and fundamentals of grammar necessary for everyday communication (listening and speaki	_	- 1
	I stress, understand its contents and summarize it.	J,. = 1000.110 WIII	
04XRZ2	Russian for Beginners Z2	Z	2
	the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short su		
	ing short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will be able to use it in writing	also develop their	vocabulary and
master further grammat	ical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in writing.		

04XRZ3	Russian for Beginners Z3	Z	2
_	d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for	raining various forms	of reading skil
	ntroduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They w	•	•
	express their opinion. Writing skills will be trained on guided writing tasks and note-taking.	·	
04XRZ4	Russian for Beginners Z4	Z	2
	d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts v	_	l
	nication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular		0
	ty, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time		-
	nore specific topics (environment, addictions, the green movement). They become acquainted with various geographical data		
	nformation from the timetable, learn about Russian holidays and typical meals.	(- 3 , , ,	
04XRZ5	Russian for Beginners Z5	Z	2
-	the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. under	1	l
· ·	specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts		
	udying grammar is based on professional and technical texts and only includes items typically used in professional communic		
	dents develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, polite re		oo, pao.p.oo,
04XSM1	Spanish for Intermediate Students M1	Z	2
-	ned for students whose competence is at level B1 of CEFR, i.e. those who studied Spanish in the secondary school. The 3-se	_	-
-	s attention to further grammar topics (e.g., perifrasis verbales, futuro imperfecto, direct object and indirect object pronouns, n		•
	ten and oral communication on a given everyday or easy subtechnical topic, for which the students are trained by reading text	_	-
		<del></del>	
04XSM2	Spanish for Intermediate Students M3	, Z	2
=	is the students' knowledge from the previous course (SM1). Students are gradually acquainted with fundamentals of Spanish	for specific purposes	s in order to be
<u>.</u>	pecialized texts on the Internet.		
04XSM3	Spanish for Intermediate Students M3	Z	2
	re supplemented with additional subtechnical materials, so the students will be gradually acquainted with the peculiarities of a		-
•	nternet in Spanish and search for information of their specialization or field of interest. Students will use the information to wri	te short articles and	summaries. Th
inal part of the pro	gramme, 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 concentrate	is on more difficult grammar topics, revision of vocabulary, basics of Spanish for specific purposes as well as written communi	cation. Course prere	quisites: level l
of CEFR.			
04XSP2	Spanish for Advanced Students P2	Z	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 independe
written communicat	ion.		
04XSP3	Spanish for Advanced Students P3	Z	2
	inal part of the advanced Spanish course. It is based on texts chosen by the students according to their future specialization. It	_	_
	ents will need in their career.		
04XSZ1	Spanish for Beginners Z1	Z	2
-	rst stage of the five-semester programme of Spanish studies; during the first stage the students will master phonetics and fund	1	l
	cate at an elementary level on topics of everyday life. They will acquire and extend fundamental vocabulary of general Spanis	-	
04XSZ2	Spanish for Beginners Students Z2	Z	2
-	, ,	_	-
	d on course SZ1, and expects students to develop and extend the knowledge and skills acquired so far. Grammar structures are		
	short adapted written texts and speech. Attention is also paid to cultural differences between Spanish-speaking countries and	d others such as the	Czecn Republ
	peaking countries are also included.		
04XSZ3	Spanish for Beginners Z3	Z	2
	d on course SZ2, and develops the student´s vocabulary and grammar structure. The course covers realia (history and culture		-
	ays attention to further grammar topics (pretérito perfecto, pretérito indefinido, pretérito imperfecto, the gerund and the imper	ative). It includes writ	ten and oral
	a given 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 base	d on course SZ3. It develops the student's vocabulary and extends the knowledge of the culture and social customs of the Sp	anish speaking cour	tries, mainly o
Spain. It pays atten	tion to further grammar topics (perífrasis verbales, futuro imperfecto, direct object and indirect object pronouns, negative form	of the imperative, ar	d subjunctive)
o written and oral o	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	Z	2
	1 .	nich for epocific purp	l
The course books a	re supplemented with additional subtechnical materials, so the students will be gradually acquainted with peculiarities of Spa	man for specific purp	0363. 111 113 1111

## 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
	used on the acquisition of speech and voice techniques and on the rules of correct pronounciation. The course is also devoted to the nonverbal aspects. Stylistics exercises, strategies for coping with stage-fright and a short excursion into the history of rhetoric are an		
00UPRA	Introduction to Law	Z	1
00UPSY	Introduction to Psychology	Z	1
01ANB3	Calculus B 3	Z,ZK	8
-	quences and series - convergence range, criteria of uniform convergence, continuity, limit, differentiation and integration of functional		
Expansion, Taylo	or's theorem. 2. Ordinary differential equations - equations of first order (method of integration factor, equation of Bernoulli, separation	of variables, home	ogeneous
•	equation) and equations of higher order (fundamental system, reduction of order, variation of parameters, equations with constant coefficients	•	٠ ا
	tital equation). 3. Metric spaces - metric, norm, scalar product, neighborhood, interior and exterior points, boundary point, isolated and	· ·	- 1
· · · · · · · · · · · · · · · · · · ·	ss of space, Hilbert spaces. Orthogonal polynomials. Complete orthogonal systems. 4. Fourier series - expansion of functions into Fouri onvergence. 5. Differential calculus of functions of several variables - limit, continuity, partial and directional derivative, gradient, total c	-	
Series and their co	Taylor series, elementary terms of vector analysis, Jacobi matrix. 6. Functions defined implicitly by one or several equations		gent plane,
01ANB4	Calculus B 4	Z,ZK	6
[1] Diferenciální p	o et funkcí více prom nných a funkcionálních vektor . [2] Funkce zadané implicitn . [3] Taylorovy ady funkce více prom nných. [4] F	,	ní, zám na
	kartézské soustavy sou adnic. [5] Lokální, vázané a globální extrémy funkce více prom nných. [6] Základy teorie míry a obrys konstr		, , , ,
Integrální po et f	funkce více prom nných - Riemann v a Lebesgue v integrál, základní vlastnosti, Fubiniova v ta, v ta o substituci. Leviho a Lebesgue	eova v ta. Limita, s	spojitost a
045044	derivace integrálu podle parametru. [8] Integrály po k ivkách a plochách. Integrální v ty.		
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	Z	2
OTDINZ	The seminar is devoted to recurrence relations. It includes individual problem solving.	۷	2
01DIMA3	Discrete Mathematics 3	ZK	2
-	by problems and methods of their solving from various parts of discrete mathematics. The seminar includes individual problem solving		
	given literature.		
01JEPR	Simple Compilers	Z	2
	Lexical and syntax analysis, code generation, simple optimizations, development environments, reflection.		
01LAL	Linear Algebra 1	Z	2
1. Vector space. 2	2. Linear dependence and independence. 3. Basis and dimension. 4. Subspaces of vector spaces. 5. Linear mappings. 6. Matrices of li	near mappings. 7.	Frobenius
01LAL2	theorem.  Linear Algebra 2	Z,ZK	4
-	se matrix and operator. 2. Permutation and determinant. 3. Spectral theory (eigenvalue, eigenvector, diagonalization). 4. Hermitian an		
	gonality. 6. Metric geometry. 7. Riesz theorem and adjoint operator. Outline of the exercises: 1. Methods for calculation of inverse matri	•	
of determinants.	. 3. Calculation of eigenvalues and eigenvectors. 4. Hermitian and quadratic forms. Canonical form. 5. Scalar product and orthogonalit	y. Calculation of or	rthogonal
	complements. 6. Geometry exercises and examples. 7. Adjoint operators.		
01LALZ	Linear Algebra 1, exam	ZK	2
01LIP	Linear Programming	Z,ZK	3
We study special p	problems 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	Z	4
OTIVIAIN	Basic calculus (real analysis, functions of one real variable, differential calculus).	_	' 7
01MAN2	Calculus 2	Z,ZK	8
	differential calculus: Taylor's Polynomials, Taylor's formula 2. Infinite series: criteria of convergence, operations on series, absolute ar		
Real and complex	power series, the Cauchy-Hadamard theorem, expansion of function into power series, summation of infinite series. 4. Theory of integr	als: primitives, def	inite integral
	(Riemann definition), techniques of integration and application of integrals, Generalized Riemann integral		
01MANZ	Calculus 1, exam	ZK	4
01PERI	Programming of Peripherals Devices	Z	2
-	rganization, input and output ports, computer bus. Software libraries for computer peripherals, 3D graphic libraries. Principles of perip		
01PGR1 The first part of the	Computer Graphics 1  two-semester "Computer Graphics" course is devoted to the specifics of digital display devices spanning from history up to the state of	Z,ZK	es Further
•	ental problems in 2D computer graphics is given together with their solutions. Focus is put on mathematical description of problems and expensive problems are considered to the state of t		
algorithms using k	knowledge previously obtained in a variety of subjects available at FNSPE. The final part of the course covers the applications of com	puter graphics app	proaches in
	the process of authoring scientific documents and presentations.		
01PGR2	Computer Graphics 2	Z,ZK	2
· ·	of the two-semester "Computer Graphics" course begins with a brief introduction to signal theory in the context of aliasing - a phenom	•	
	, a well structured survey of fundamental problems in 3D computer graphics is given together with their solutions, from the description sput on mathematical description of problems and explanation of the corresponding algorithms using knowledge previously obtained in		
_	orithm implementation aspect such as data structures design etc. is also a matter of concern. In the last lecture, a number of theoretic		
J	using Blender, an open-source 3D modeling and rendering software instrument.	·	
01PRST	Probability and Statistics	Z,ZK	4
	e of probability theory and mathematical statistics. The probability theory is build gradually beginning with the classical definition and	_	-
	ions as random variable, distribution function of random variable and characteristics of random variable are treated and basic limit the		and proved.
01PSL	le basis of this theory the basic methods of mathematical statistics such as estimation of distribution parameters and hypothesis testin		2
UIFSL	LaTeX - Publication Instrument  The course is devoted to the basics and facilities of computer typography, particularly to the system LaTeX	Ζ	2
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		
_	ations. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification authorized access.	•	
(PKI). Use in pra	actice. Network security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the se	rial control lines, r	modems)

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		
	titions. Internet services - mail, remote access, www. Secure communication, tunneling. Directory services, certificates, certification authors to the services of the service		
	actice. Network security - firewalls (packet filters, proxies, gateways, NAT, DMZ), practical exercises. (According to the interest - the se		
01TKO	Theory of Codes  Algebraic methods used in error detecting and error correcting codes.	ZK	2
01UOP	Introduction to Object Programming Object oriented programming languages. Object oriented programming libraries for graphics, databases and distributed syste	ZK ms.	2
01UP1	Introduction to Probability 1	Z,ZK	3
	with finite set of possible results, classical probability, independent random events 2.Probability and combinatorics 3.Probability and g		-
4.Conditional proba	ability, Bayes theorem, medical diagnosis, Simpsons paradox 5.Random variable with discrete state space, its distribution and mean calculation of mean value 7.Probabilistic method in graph theory 8.Random algorithms, Morris algorithm and its variants	value 6.F10bleIIIS I	involving the
01UP2	Introduction to Probability 2	Z,ZK	3
	al continuous random variable and its statistical description. 2. Distribution function and probability density. 3. Axiomatic introduction of		
measure theory. 4.	Numerical characteristics of continuous random variables. 5. Selected variants of continuous distributions and their characteristics. 6.	. Elementary metho	ods for point
	estimations. 7. Generating pseudorandom numbers from the selected distribution.		
01USU	Introduction to Machine Learning	Z,ZK	4
	irse is to provide a broad introduction to machine learning, data mining and statistical image recognition. Main attention is paid to the large renalysis and dimensionality reduction. The lectures and theory explanation is accompanied by examples of experiments and practic		- 1
	n and run in computer labs with emphasis on the implementation and use of machine learning algorithms applied to real data from pi		ercises use
02DEF1	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, Greek natural philo	sophers, Aristotle.	Physics in
Helenistic period,	Archimed. Arabic science, European science in Middle Ages. Renaissance - da Vinci, Giordano Bruno. Copernicus, Kepler, Galileo, I as experimental science. Newton and his work.	Huygens. The birth	of physics
02DEF2	History of Physics 2	Z	2
Development of	f classical mechanics after Newton, Bernoulli's, Euler, Lagrange. Historical development of optics, corpuscular and wave approach. E	lectricity and mag	netism -
_	vanism, electrodynamics and electromagnetism, Faraday and Maxwell. Thermodynamics and its laws, statistical physics, Boltzmann.		-
and relativistic p	on standard model. The concept of Nature and Universe of today.	nergy, Elementary	particles,
02FY1	Physics 1	Z,ZK	4
-	। । । । । । । । । । । । । । । । । । ।		
2.1	physical phenomena.		
02FY2	Physics 2	Z,ZK	4
Thermodynar	nics, electricity and magnetism, modern physics. The lecture is supplemented with practical investigation and demonstration of select	ted physical pheno	mena.
04AKS	English Conversation	Z	1
			' I
	evelop the student's communication skills acquired throughout their previous studies. It aims to improve all aspects of oral communication studies are uniformly studies and will proceed their lightening skills in order to		- 1
their vocabulary fo	or various communication situations and will master their communication strategy. They will also practise their listening skills in order t	o better follow and	- 1
their vocabulary fo	or various communication situations and will master their communication strategy. They will also practise their listening skills in order t iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more con	o better follow and	- 1
their vocabulary for in d	or various communication situations and will master their communication strategy. They will also practise their listening skills in order t	o better follow and affident speaker.	participate 2
their vocabulary for in d  04XAM1  The course is design of Reference for La	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cormoved English for Intermediate Students M1 gned for students who have successfully completed the full secondary school English language course at least at the A2 level of the Canguages (CEFR). It provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into fundamentals of	o better follow and infident speaker.  Z Common European vocabulary and sty	participate  2 Framework /le typical of
their vocabulary for in d  04XAM1  The course is design of Reference for La	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more communication. The students will be trained to express their ideas clearly and according to current English usage, and become a more communication students who have successfully completed the full secondary school English language course at least at the A2 level of the Council and Witten Communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical interpretations.	o better follow and infident speaker.  Z Common European vocabulary and sty	participate  2 Framework /le typical of
their vocabulary for in d 04XAM1 The course is design of Reference for La professional oral a	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more communication. The students will be trained to express their ideas clearly and according to current English usage, and become a more communication shaded by the communication students who have successfully completed the full secondary school English language course at least at the A2 level of the Communication shaded by the communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical interest extending the knowledge of grammar issues used in EAP.	o better follow and affident speaker.  Z Common European vocabulary and styerest. Attention is a	participate  2 Framework /le typical of also paid to
their vocabulary for in d 04XAM1 The course is design of Reference for La professional oral a	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more communication. The students will be trained to express their ideas clearly and according to current English usage, and become a more communication students who have successfully completed the full secondary school English language course at least at the A2 level of the Communication 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 intermediate Students M2	o better follow and affident speaker.  Z Common European vocabulary and styerest. Attention is a	2 Framework //le typical of also paid to
their vocabulary for in d  04XAM1 The course is design of Reference for La professional oral a  04XAM2 The AM2 course of the interpretation of the interpr	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more communication. The students will be trained to express their ideas clearly and according to current English usage, and become a more communication shaded by the communication students who have successfully completed the full secondary school English language course at least at the A2 level of the Communication shaded by the communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical interest extending the knowledge of grammar issues used in EAP.	o better follow and affident speaker.  Z Common European vocabulary and stylerest. Attention is a specific grammar,	Participate  2 Framework /le typical of also paid to  2 functions,
their vocabulary for in d  04XAM1 The course is design of Reference for La professional oral a  04XAM2 The AM2 course of the interpretation of the interpr	or various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more communication. The students will be trained to express their ideas clearly and according to current English usage, and become a more communication students who have successfully completed the full secondary school English language course at least at the A2 level of the Communication 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 intermediate extending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2 expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on	o better follow and affident speaker.  Z Common European vocabulary and stylerest. Attention is a specific grammar,	Participate  2 Framework /le typical of also paid to  2 functions,
their vocabulary for in d  04XAM1  The course is design of Reference for Laprofessional oral a  04XAM2  The AM2 course oral and lexical items type  04XAM3	English for Intermediate Students M1  grades (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 intermediate Students M2  English for Intermediate Students M1  grades (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 intermediate Students M2  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3	o better follow and affident speaker.  Z Common European vocabulary and styerest. Attention is a z specific grammar, writing. If necessa	Participate  2 Framework Ale typical of also paid to  2 functions, ry, grammar
their vocabulary for in d  04XAM1  The course is design of Reference for Laprofessional oral a  04XAM2  The AM2 course oral and lexical items type  04XAM3  The course develops	English for Intermediate Students M2  English for Intermediate Students M1  graded for students who have successfully completed the full secondary school English language course at least at the A2 level of the Cardinate of the students of the student of the stude	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, I writing. If necessa	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 ndependent
their vocabulary for in d  04XAM1  The course is design of Reference for Laprofessional oral a  04XAM2  The AM2 course oral and lexical items type  04XAM3  The course develop understanding of	English for Intermediate Students M2 expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revisional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication is paid to developing subtechnical or professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication.	o better follow and affident speaker.  Z Common European vocabulary and styerest. Attention is a z specific grammar, writing. If necessa z z al vocabulary and i and their appropria	Participate  2 Framework Ale typical of also paid to  2 functions, ry, grammar  2 ndependent ate Czech
their vocabulary for in d  04XAM1  The course is design of Reference for Laprofessional oral a  04XAM2  The AM2 course oral and lexical items type  04XAM3  The course develop understanding of	English for Intermediate Students M2  English for Intermediate Students M1  graded for students who have successfully completed the full secondary school English language course at least at the A2 level of the Cardinates of the students of the students of the course of the students of the student of the studen	o better follow and affident speaker.  Z Common European vocabulary and styerest. Attention is a z specific grammar, writing. If necessa z z al vocabulary and i and their appropria	Participate  2 Framework Ale typical of also paid to  2 functions, ry, grammar  2 ndependent ate Czech
their vocabulary for in d  04XAM1  The course is design of Reference for Laprofessional oral a  04XAM2  The AM2 course oral and lexical items type  04XAM3  The course develop understanding of	English for Intermediate Students M1 grades (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 intermediate Students M2 expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision al texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication or presentation of preparing and giving a short presentation of presentation or preparing and giving a short presentation of presentation or preparing and giving a short presentation of presentation or preparing and giving a short presentation or presentation or preparing and giving a short presentation or presentation or preparing and giving a short presentation or presentation or preparing and giving a short	o better follow and affident speaker.  Z Common European vocabulary and styerest. Attention is a z specific grammar, writing. If necessa z z al vocabulary and i and their appropria	Participate  2 Framework Ale typical of also paid to  2 functions, ry, grammar  2 ndependent ate Czech
their vocabulary for in d  04XAM1 The course is design of Reference for Large professional oral at the course of the course of the course of the course development of the cou	English for Intermediate Students M1 graded for students who have successfully completed the full secondary school English language course at least at the A2 level of the Canguages (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 intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2 expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3 so the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical purposes includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation of student's field.	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, writing. If necessal vocabulary and i and their appropria n a chosen topic results.	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the
their vocabulary for in d  04XAM1  The course is design of Reference for Laprofessional oral at a design of AMA and the course of AMA and lexical items by the course development of the course development. The course content of AMA and the course content of the cou	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more come English for Intermediate Students M1  Intermediate Students M1  Intermediate Students M1  Intermediate Students M1  Intermediate Students M2  Intermediate Students 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 intervention in extending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  Intermediate Students Intermediate of professional style. Increasing attention is paid to developing subtechnical purposes includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation of student's field.  English for Intermediate Students Examination  English for Intermediate Students Examination  English for Intermediate Students Examination  Intermediate	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal vocabulary and i and their appropria n a chosen topic results. See written (100 min English courses.	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a design of AMA and the course of AMA and lexical items by the course development of AMA and the course development of AMA and the course content of AMA and the course of AMA and the cour	The student will be trained to express their ideas clearly and according to current English usage, and become a more core iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more core is English for Intermediate Students M1 gened for students who have successfully completed the full secondary school English language course at least at the A2 level of the County and written communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  so the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication ourse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation of student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts 30 min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three English for Advanced Students P1	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal vocabulary and i and their appropria n a chosen topic results. See written (100 min English courses.	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a design of AMA and the course of AMA and the course development of AMA and the course development of AMA and the course development of AMA and the course content of AMA and the course content of AMA and the course is design of the course is designed.	The various communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more composed for students who have successfully completed the full secondary school English language course at least at the A2 level of the Conguages (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 intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  as 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 purse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation on student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts 30 min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three 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	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal vocabulary and i and their appropria n a chosen topic results. See written (100 min English courses.  Z common European	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional oral	The student will be trained to express their ideas clearly and according to current English usage, and become a more core iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more core is English for Intermediate Students M1 gened for students who have successfully completed the full secondary school English language course at least at the A2 level of the County and written communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  so the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication ourse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation of student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts 30 min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three English for Advanced Students P1	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, writing. If necessal vocabulary and i and their appropria n a chosen topic results. Z  S - written (100 min English courses.  Z common European tals of vocabulary,	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions,
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional oral	English for Intermediate Students M2 expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  English for Intermediate Students M4  English for Intermediate Students ESP, EAP), i.e., into fundamentals of the student's life and needs as well as topics of subtechnical intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  est 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 burse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation or student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and minimal provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the fundamental text provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the fundamental text provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the fundamental text provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the fundamental text provides an introduction into English for Specific	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, writing. If necessal vocabulary and i and their appropria n a chosen topic results.  Z S - written (100 min English courses.  Z common European tals of vocabulary, raph descriptions,	Participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional oral	English for Intermediate Students M2 expects the student to have completed the AM1 course. It develops their skills for whith students to have completed the AM1 course. It develops their skills for whith skills that enable students to cope with features typical of professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and or student is expected to master the AM1 sylabus and demonstrate the ability to apply their knowledge gained in the three English for Intermediate Students P1 gned for students who have successfully completed the full secondary school English language course at least at the A2 level of the C Languages - 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 interpretations of professional students M2 expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3 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 burse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation or student's field.  English for Intermediate Students Examination ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, writing. If necessal and their appropria a chosen topic results of vocabulary, raph descriptions, riting a CV, letter of	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional of Reference for grammar, and styl covers professional of Reference for of the professional of Reference for grammar, and styl covers professional of Reference for of the professional of the professional of Reference for of the professional of the professional of Reference for of the professional of the profe	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cor English for Intermediate Students M1  and for students who have successfully completed the full secondary school English language course at least at the A2 level of the County and written communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  as the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication burse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation on student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three 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 Languages - CEFR). It provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, writing. If necessal and their appropria and their appropria a chosen topic results.  Z al vocabulary and i and their appropria a chosen topic results.  Z S - written (100 min English courses.  Z ommon European tals of vocabulary, raph descriptions, riting a CV, letter of	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional of Reference for grammar, and styl covers professional of AVAP2 The AP2 course is	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cordinated. The communication is trained to express their ideas clearly and according to current English usage, and become a more cordinated. The communication is trained to express their ideas clearly and according to current English usage, and become a more cordinated. The communication is trained to express the full secondary school English language course at least at the A2 level of the Communication into English for Intermediate Studentical Intermediate Students in the extending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  but the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication purse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation of students for intermediate Students Examination  English for Intermediate Students Examination  English for Intermediate Students Examination  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 Languages - CEFR). It provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the fundamen le typical of	o better follow and affident speaker.  Z Common European vocabulary and sty erest. Attention is a specific grammar, writing. If necessal writing. If necessal and their appropria n a chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the common European tals of science.	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,  2 According to
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional of Reference for grammar, and styl covers professional of AVAP2 The AP2 course is the students' need the students' nee	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cor English for Intermediate Students M1  and for students who have successfully completed the full secondary school English language course at least at the A2 level of the County and written communication situations. Thus it covers topics related to the student's life and needs as well as topics of subtechnical intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  as the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication burse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation on student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three 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 Languages - CEFR). It provides an introduction into English for Specific and Academic Purposes (ESP, EAP), i.e., into the	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal and their appropria na chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the course of science. All functions (e.g., value)	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,  2 According to arious types
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional of Reference for grammar, and styl covers professional of the students' need of descriptions, and	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cording to current English usage, and become a more cordington of the control of t	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal and their appropria and their appropria a chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary and the common European tals of vocabulary and the common European tals of vocabulary and the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary and tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions and tals of vocabulary and tals of vocabulary.	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,  2 According to arious types g materials.
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional of Reference for grammar, and styl covers professional of the students of descriptions, and the course extends of descriptions, and the course extends of the students o	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cor English for Intermediate Students M1  and for students who have successfully completed the full secondary school English language course at least at the A2 level of the Canguages (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 intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  so the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnical professional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication purse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation or student's field.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts 30 min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three 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 th	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal and their appropria and their appropria a chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary and the common European tals of vocabulary and the common European tals of vocabulary and the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary and tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions and tals of vocabulary and tals of vocabulary.	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,  2 According to arious types g materials.
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a professional of Reference for grammar, and styl covers professional of the students' need of descriptions, and The course extends of AXAP3	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cor English for Intermediate Students M1  greated for students who have successfully completed the full secondary school English language course at least at the A2 level of the Cunguages (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 interpretations are strained by the following the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  as 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 purse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation on student's field.  English for Intermediate Students Examination  English for Intermediate Students Examination  it is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three English for Advanced Students P1  gned for students who have successfully comple	o better follow and offident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal and their appropria na chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, recommon European tals of vocabulary, raph descriptions, raph descriptions, raph descriptions, raph descrip	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,  2 According to arious types g materials. entence and
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at professional of Reference for grammar, and styl covers professional of Reference for grammar and styl covers professional of Reference for	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order t iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cor English for Intermediate Students M1  pned for students who have successfully completed the full secondary school English language course at least at the A2 level of the Cunguages (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 intextending the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  so the skills that enable students to cope with features typical of professional style. Increasing attention is paid to developing subtechnic purpose sional texts. Great emphasis is placed on distinguishing different levels of formal and informal oral and written communication outse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation of students students students studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation on student's filed.  English for Intermediate Students Examination  ent is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and minimal provides an introduction into English for Squares and AM1, AM2, and AM3 courses and consists of two parts and minimal provides an introdu	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessal and their appropria na chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary and tals of vocabulary a	participate  2 Framework rile typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the  4 ) and oral  2 Framework functions, etc). It also application,  2 According to arious types g materials. entence and  2 and written
their vocabulary for in d  04XAM1 The course is design of Reference for Laprofessional oral at a course in the AM2 course of and lexical items type of the AM2 course of and lexical items type of the AM2 course develop understanding of the account of the AM2 course is designed of Reference for the AM2 course is the students of the AM2 course is the students of the students of the accourse of the AM2 course is the students of the accourse of the AM2 course is the students of the accourse extends of the AM2 course is the account of the AM2 course is the account of the AM2 course is communication skill of the AM2 course is communication skill of the AM2 course is communication and the AM2 course is communication skill of the AM2 course is communication and the AM2 course is communication skill of the AM2 course is comm	revarious communication situations and will master their communication strategy. They will also practise their listening skills in order to iscussions. The student will be trained to express their ideas clearly and according to current English usage, and become a more cor English for Intermediate Students M1  greated for students who have successfully completed the full secondary school English language course at least at the A2 level of the Cunguages (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 interpretations are strained by the following the knowledge of grammar issues used in EAP.  English for Intermediate Students M2  expects the student to have completed the AM1 course. It develops their skills for work with subtechnical texts, focusing also more on pical of ESP and EAP (e.g., definition, existence and classification of phenomena, object descriptions). Part of the course is also guided revision is included.  English for Intermediate Students M3  as 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 purse also includes studying abstracts and rules for writing them as well as basic rules for preparing and giving a short presentation on student's field.  English for Intermediate Students Examination  English for Intermediate Students Examination  it is the examination as given by the study plan. The examination covers the AM1, AM2, and AM3 courses and consists of two parts and min). The student is expected to master the AM syllabus and demonstrate the ability to apply their knowledge gained in the three English for Advanced Students P1  gned for students who have successfully comple	o better follow and affident speaker.  Z Common European vocabulary and style erest. Attention is a specific grammar, writing. If necessar and their appropria in a chosen topic results of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions, riting a CV, letter of the common European tals of vocabulary, raph descriptions of science. All functions (e.g., vally more demanding including the second grant abstract) and, and abstract) and, and and abstract) and, and an abstract) and, and an abstract) and, and an abstract) and an abstract) and, and an abstract) and, an abstract) and, an abstract) and, and an abstract) and, an abstract) and, and an abstract) and, an abstract) and, and an abstract) and, and an abstract) and an abstra	participate  2 Framework de typical of also paid to  2 functions, ry, grammar  2 Independent ate Czech elated to the elated to the delated to the late Czech elated to the elated to the late Czech elated to the el

04XAPZK	English for Advanced Students Examination	ZK	4
The course conten	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	apply their knowled	lge obtained
in the three AP	courses. The examination consists of 2 parts - written (100 min) and oral (30 min) and includes also oral presentation of a topic from	the student's field	of study.
04XCESM1	Czech for Foreigners - Intermediate 1	Z	2
The course is focus	sed on correct pronunciation, important morphological phenomena, prepositional phrases, and verb forms as well as on extending the st	tudent´s vocabular	y for various
	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 readir	ng 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 i	revises 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.		
04XCESMZK	Czech for Intermediate Students Examination	ZK	4
The course conte	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 prerequisite of	the course is very good knowledge of the Czech language, i.e., communicative competences at least at level B2 of the Common Europe	bean Framework of	f Reference.
	on revision of standard language structures, but mainly on practising more complex grammatical structures typical of the style of scie		-
basics of function	nal style of engineering and professional communication, both in spoken and written form. The topics include University Studies and S	Student Life. Writte	n practice
	includes communication with teachers and faculty administrators.		
04XCESP2	Czech for Foreigners - Advanced 2	Z	2
This course extend	ls the student's knowledge acquired in CESP1 and focuses on difficult language phenomena. It practises working with technical and	specialist texts pla	cing greater
	emphasis on individual work.		
04XCESP3	Czech for Foreigners - Advanced 3	Z	2
The course develo	ps the student's knowledge from CESP2. It includes working with authentic specialist materials, their interpretation and presentation,	and, finally, presen	tation of the
	student's project. Writing skills necessary for professional communication are trained.		
04XCESPZK	Czech for Foreign Students - Advanced Examination	ZK	4
The course conte	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	P1,2,3 courses ar	d can only
	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
The course is design	gned for students of the English programme. Students will become acquainted with the main characteristics of Czech (phonetic and g	rammar features) a	and they will
acquire basic lange	uage and speaking skills. The course focuses on pronunciation exercises, simple social phrases, and oral and written communication	in the most comme	on everyday
	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 co	njugation system a	nd practise
	basic communication topics. The course covers roughly lessons 3-5 in Czech Express by L. Holá and P. Bo ilová.		
04XCESZ3		Z	2
04XCESZ3 The course further	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on	_	l .
The course further	Czech for Foreigners - Beginners 3	building up basic v	ocabulary,
The course further	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on	building up basic v simple texts and t	vocabulary, hey practise
The course further	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce	building up basic v simple texts and t	vocabulary, hey practise
The course further	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce	building up basic v simple texts and t	vocabulary, hey practise
The course further fixing correct pronu frequent types of d	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.	building up basic v simple texts and to lessons 5-7 in e	vocabulary, hey practise ština expres
The course further fixing correct pronu frequent types of d	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination	building up basic v simple texts and to lessons 5-7 in e	vocabulary, hey practise ština expres
The course further fixing correct pronu frequent types of d	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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	building up basic v simple texts and to lessons 5-7 in e	vocabulary, hey practise ština expres
The course further fixing correct pronu frequent types of d 04XCESZZK The course conterposition 04XFM1	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.	building up basic v simple texts and t lessons 5-7 in e ZK CESZ1,2,3 course	vocabulary, hey practise ština expres  4 es and can
The course further fixing correct pronu frequent types of do to the course content of the course co	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1	building up basic visimple texts and the lessons 5-7 in the lessons 5-	hey practise stina expres  4 es and can  2 m. Students
The course further fixing correct pronu frequent types of double of the course content of the course of the course course of the course course of the co	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both v	building up basic visimple texts and the lessons 5-7 in the lessons 5-	hey practise stina expres  4 es and can  2 m. Students technical
The course further fixing correct pronu frequent types of do to the course context. The course context of the course	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 atte FM The objective of this three-semester course is to improve and further develop communication in the French language in both warmunicate in social interaction and in academic, scientific and professional environment. They will be able to use the language to tra	building up basic visimple texts and the lessons 5-7 in the lessons 5-	hey practise stina expres  4 es and can  2 m. Students technical ds language
The course further fixing correct pronu frequent types of document	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both wormmunicate 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, systems.	building up basic visimple texts and the lessons 5-7 in expenses and e	hey practise stina expres  4 es and can  2 m. Students technical de language uest, answer
The course further fixing correct pronu frequent types of document	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both of the product of the course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious study. The following topics are covered: University studies in our country and in France, writing of transactional letters, CV, persor	building up basic visimple texts and the lessons 5-7 in expenses and e	hey practise stina expres  4 es and can  2 m. Students technical de language uest, answer
The course further fixing correct pronu frequent types of d    O4XCESZZK The course context    O4XFM1   French - intermedia will be able to conformation and to skills gained in preton an advert,   O4XFM2	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both vommunicate 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, systevious 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	building up basic visimple texts and the lessons 5-7 in the lessons 5-	hey practise  4 es and can  2 m. Students technical ds language uest, answer texts.  2
The course further fixing correct pronu frequent types of d    O4XCESZZK The course context    O4XFM1   French - intermedia will be able to conformation and to skills gained in preton an advert,   O4XFM2   Course FM2 builds	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both of the solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2	building up basic visimple texts and the lessons 5-7 in expenses and e	hey practise  4 es and can  2 m. Students technical ds language uest, answer texts.  2 for technical
The course further fixing correct pronu frequent types of d    O4XCESZZK The course context    O4XFM1   French - intermedia will be able to conformation and to skills gained in preton an advert,   O4XFM2   Course FM2 builds	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both of the solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science texts.	building up basic visimple texts and the lessons 5-7 in expenses and e	hey practise  4 es and can  2 m. Students technical ds language uest, answer texts.  2 for technical
The course further fixing correct pronu frequent types of d    O4XCESZZK The course context    O4XFM1   French - intermedia will be able to conformation and to skills gained in preton an advert,   O4XFM2   Course FM2 builds	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both of the solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science texts are usuage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science texts.	building up basic visimple texts and the lessons 5-7 in expenses and e	hey practise  4 es and can  2 m. Students technical ds language uest, answer texts.  2 for technical
The course further fixing correct pronu frequent types of document	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both vommunicate 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, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text arguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science text scientists, artists and architects. Description of an object, device, shapes, dimensions, material.	building up basic visimple texts and the lessons 5-7 in expenses and e	hey practise  tina expres  4  as and can  2  m. Students technical ds language uest, answer texts.  2  for technical gy, French
The course further fixing correct pronu frequent types of document	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 atte FM The objective of this three-semester course is to improve and further develop communication in the French language in both vommunicate 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, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text arguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science text scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3	building up basic visimple texts and the simple texts and the lessons 5-7 in the lessons	hey practise  tina expres  4  as and can  2  m. Students technical ds language uest, answer texts.  2  for technical gy, French  2  tive clauses,
The course further fixing correct pronu frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both or solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text acquired (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3 sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (subtree, compound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-clar students work.	building up basic visimple texts and the simple texts and the lessons 5-7 in expenses and expens	hey practise  tina expres  4  as and can  2  m. Students technical ds language uest, answer texts.  2  for technical gy, French  2  tive clauses, aked to the ench articles
The course further fixing correct pronut frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on unciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both vommunicate in social interaction and in academic, scientific and professional environment. They will be able to use the language to trassolve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text arguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3 sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub res, compound tenses). Text	building up basic visimple texts and the simple texts and the lessons 5-7 in expenses and expens	hey practise  tina expres  4  as and can  2  m. Students technical ds language uest, answer texts.  2  for technical gy, French  2  tive clauses, aked to the ench articles
The course further fixing correct pronu frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both or solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text acquired (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3 sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (subtree, compound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-clar students work.	building up basic visimple texts and the simple texts and the lessons 5-7 in expenses and expens	hey practise  tina expres  4  as and can  2  m. Students technical ds language uest, answer texts.  2  for technical gy, French  2  tive clauses, aked to the ench articles
The course further fixing correct pronut frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on unciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both or solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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  French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text anguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3  sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub res, compound tenses). Text	building up basic visimple texts and the simple texts and the lessons 5-7 in the lessons	y coabulary, hey practise stina expres  4 as and can  2 m. Students technical ds language uest, answer texts.  2 for technical y, French  2 tive clauses, aked to the each articles
The course further fixing correct pronut frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on unciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both or solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text neguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French sciences (passives, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3  seed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (subters, compound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-clar sture specialisation or	building up basic visimple texts and tivessons 5-7 in eximple texts and oral for an and expanding the same expansion of the second texts and expansion of the second texts and expansion or the second texts are the second texts and expansion or the second texts and expansion or the second texts are the second texts and expansion or the second texts are the second texts and expansion or the second texts are the second texts and expansion or the second texts are the second texts and expansion or the second texts are the second texts and expansion or the second texts are the second texts and expansion or the second texts are the second texts are the second texts and expansion or the second texts are the	y coabulary, hey practise stina expres  4 as and can  2 m. Students technical ds language lest, answer texts.  2 for technical ly, French  2 tive clauses, aked to the each articles can administration
The course further fixing correct pronut frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on unciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both or solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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  French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text anguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3  sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub res, compound tenses). Text	building up basic visimple texts and the simple texts and the lessons 5-7 in the lessons	y coabulary, hey practise stina expres  4 as and can  2 m. Students technical ds language uest, answer texts.  2 for technical y, French  2 tive clauses, aked to the each articles
The course further fixing correct pronut frequent types of double frequent	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on unciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both or solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text neguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French sciences (passives, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3  seed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (subters, compound tenses). Text summaryStudents prepare a written paper which will be delivered in form of an oral presentation in-clar sture specialisation or	building up basic visimple texts and titlessons 5-7 in eximple texts and oral for insmit general and emizes and expanding and statement, require the based on these and technological and techno	procabulary, hey practise stina expres  4 as and can  2 m. Students technical dis language uest, answer texts.  2 for technical ly, French  2 tive clauses, aked to the ench articles amination
The course further fixing correct pronut frequent types of double frequent f	Czech for Foreigners - Beginners 3 er develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both vommunicate 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text neguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3  seed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (subtrace specialization or	building up basic visimple texts and titlessons 5-7 in eximple texts and oral for insmit general and emizes and expanding and expanding texts and expanding texts and expanding texts and expanding texts. The paper is linguistic to and coherence and coherence and coherence and texts and oral form. So and technical info	y, French  2 tive clauses, aked to the ench articles  4 tudents will rmation and
The course further fixing correct pronu frequent types of d O4XCESZZK. The course context of the course context of the course context of the course information and to skills gained in present to an advert, O4XFM2 Course FM2 builds and scientific lar O4XFM3 The course is focus participle structure field of students' fund on O4XFMZK. The content is the O4XFP1 FP advanced course able to community solve problems.	Czech for Foreigners - Beginners 3 or develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce lalogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both vimmunicate in social interaction and in academic, scientific and professional environment. They will be able to use the language to transvive problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text guage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3  seed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (subters, compound tenses). Tex	building up basic visimple texts and titlessons 5-7 in eximple texts and oral for insmit general and eximple and expandent and expandent at the eximple texts and expandent and expandent and infinition and technological eximple texts. The paper is line compiled from Freon and coherence and technological eximple texts and technical infoated and expanded texts.	A can be stina expres  4 can be stina expres  4 can be said can  2 can be stina expres  2 can be said can  4 can be said can  4 can be said can  2 can be said can  4 can be said can  5 can be said can  6 can be said can  7 can be said can  8
The course further fixing correct pronu frequent types of d O4XCESZZK. The course content will be able to conformation and to skills gained in preto an advert, O4XFM2 Course FM2 builds and scientific lar O4XFM3 The course is focus participle structure field of students' fund on O4XFMZK. The content is the O4XFP1 FP advanced course able to community solve problems. passé composé-im	Czech for Foreigners - Beginners 3 or develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on incitation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ialogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language to both wommunicate in social interaction and in academic, scientific and professional environment. They will be able to use the language to transolve 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text aguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science texts and provided to the provided students M3  sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub respecialisation or to their interest and generally covers a technical /applied science topic. It is not a transl	building up basic visimple texts and titlessons 5-7 in eximple texts and eximple and technological eximple and technological eximple and coherence and technical information and eximple and eximple and eximple eximple and eximple eximp	A can be stine expression and can be stine expression and can be said and can
The course further fixing correct pronu frequent types of d O4XCESZZK. The course content will be able to conformation and to skills gained in preto an advert, O4XFM2 Course FM2 builds and scientific lar O4XFM3 The course is focus participle structure field of students' fund on O4XFMZK. The content is the O4XFP1 FP advanced course able to community solve problems. passé composé-im	Czech for Foreigners - Beginners 3  re develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce lalogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination  Czech for Foreigners Beginners - Examination  only be taken after successful completion of all three courses. Detailed information is to be obtained from the teacher.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both various problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systevious 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  French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science texts are guage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French sciences (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French sciences (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French sciences (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French sciences on the proper and proper an	building up basic visimple texts and titlessons 5-7 in eximple texts and oral for insmit general and eximple and expandent and expandent texts and expandent texts. The paper is lincompiled from Freon and coherence Incompiled from Standard form. Standard form	A can be stine expression and can be stine expression and can be said and can
The course further fixing correct pronu frequent types of d O4XCESZZK. The course content will be able to compare to an advert, O4XFM2 Course FM2 builds and scientific lar O4XFM3 The course is focus participle structure field of students' fund on O4XFMZK. The content is the O4XFP1 FP advanced course able to community to solve problems. passé composé-im request, answer to	Czech for Foreigners - Beginners 3  re develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce laidogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination  Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both v momunicate 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, systevious 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text aguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science for Intermediate Students M3  sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub respective propers). Text summary. Students prepare a written paper which will be delivered in form of an oral presentation in-cla	building up basic visimple texts and titlessons 5-7 in eximple and send and send expandent and expandent and expandent texts. The paper is lined and texts and texts. The paper is lined and coherence to the paper is lined and expanded itters, CV, personal of specialization: min.	procabulary, hey practise stina expres  4 as and can  2 m. Students technical dis language uest, answer texts.  2 for technical dy, French  2 tive clauses, alked to the ench articles armination  2 trudents will remation and dis subjonctif, I statement, nathematics,
The course further fixing correct pronu frequent types of d O4XCESZZK. The course content will be able to conformation and to skills gained in preto an advert, O4XFM2 Course FM2 builds and scientific lar O4XFM3 The course is focus participle structure field of students' fund on O4XFMZK. The content is the O4XFP1 FP advanced course able to community solve problems. passé composé-im request, answer to	Czech for Foreigners - Beginners 3 or develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on unciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce ladogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly  1.  Czech for Foreigners Beginners - Examination int 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.  French for Intermediate Students M1 ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both vommunication is objective of this three-semester course is to improve and further develop communication in the French language to the solve problems. FM1 The course builds on and further develops linguistic competence acquired at secondary school. It revises, systerious 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 French for Intermediate Students M2 on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text guage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science scientists, artists and architects. Description of an object, device, shapes, dimensions, material.  French for Intermediate Students M3 and on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub returns specialisation or to th	building up basic visimple texts and tilessons 5-7 in eximple development of the second and statement, required the second eximple and technological statement, required the second eximple texts and technological statement, required the second eximple texts and technological statement of the second eximple texts and technological statement eximple texts. The paper is line compiled from Freson and coherence to the second eximple texts and technical information and technical information and technical information eximple texts. The paper is line to the second eximple texts and technical information and technical information eximple texts. The second eximple texts and texts are second eximple texts.	procabulary, hey practise stina expres  4 as and can  2 m. Students technical des language uest, answer texts.  2 for technical ly, French  2 tive clauses, aked to the ench articles desired and the ench articles desired and the ench artisels desi
The course further fixing correct pronu frequent types of d O4XCESZZK. The course content will be able to conformation and to skills gained in preto an advert, O4XFM2 Course FM2 builds and scientific lar O4XFM3 The course is focus participle structure field of students' fund on O4XFMZK. The content is the O4XFP1 FP advanced course able to community solve problems. passé composé-im request, answer to	Czech for Foreigners - Beginners 3  re develops the language and communication competences acquired in the XCESZ1 and XCESZ2 courses. The teaching focuses on inciation and deepening grammar, features through practice, as well as introducing the Czech culture. Students are asked to produce laidogue. They also practise understanding texts in terms of main ideas or looking for specific details in texts. The course covers roughly 1.  Czech for Foreigners Beginners - Examination  Int 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.  French for Intermediate Students M1  ate FM The objective of this three-semester course is to improve and further develop communication in the French language in both v momunicate 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, systevious 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 French for Intermediate Students M2  on FM1. Linguistic structures and competence acquired in previous study are systemized and expanded. Reading popular science text aguage (passives, nominalization, word formation). Topics: physics, power engineering, environment, Internet, success of French science for Intermediate Students M3  sed on improvement and further development of linguistic competence acquired during the follow-up courses. Syntactic structures (sub respective propers). Text summary. Students prepare a written paper which will be delivered in form of an oral presentation in-cla	building up basic visimple texts and tilessons 5-7 in eximple development of the second and statement, required the second eximple and technological statement, required the second eximple texts and technological statement, required the second eximple texts and technological statement of the second eximple texts and technological statement eximple texts. The paper is line compiled from Freson and coherence to the second eximple texts and technical information and technical information and technical information eximple texts. The paper is line to the second eximple texts and technical information and technical information eximple texts. The second eximple texts and texts are second eximple texts.	procabulary, hey practise stina expres  4 as and can  2 m. Students technical des language uest, answer texts.  2 for technical ly, French  2 tive clauses, alked to the ench articles desired ar

04XFP3	French for Advanded Students P3	Z	2
	ed on systemization and improvement of acquired linguistic competence, skills and knowledge, and their use for communication in eng	-	
skill - translation of	shorter texts (both from and into the language). Writing of a paper and making oral presentation in-class. The paper generally covers	s a technical /applie	ed science
04VEDZI/	topic. It is a creative work compiled from 3 French sources. Preparation of several set topics for oral examination.	71/	
04XFPZK	French for Advanced Students Examination program is ended with an examination covering the contents of FP1-FP3. The examination consists of a written and/or an oral part a	ZK	4
The whole Hench	Examination Instructions, a document available on the web. Assessment of the presentation is included into the examination gra	•	Jording to
04XFZ1	French for Beginners Z1	Z	2
French for beginners	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	alizing and in profe	ssional life.
	s French for specific / technical communication and reading of popular science and scientific texts. FZ1 The objective is to be able to		- 1
=	sing the knowledge of chosen elementary language. The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda (see the language). The contents is roughly outlined by lessons 1 - 7 of the textbook Pravda - Pravda (see the language).	_	- 1
•	a áte ky). It is extended with situations of communication and functions from the textbook Espaces I, lessons 1-4 : introductions, pe rections, simple instructions and questions. Special attention is paid to pronunciation. Spelling is explained in connection with pronu		٠ ا
04XFZ2	French for Beginners Z2	Z	2
	g up with FZ1. Elementary linguistic knowledge and communication skills are expanded. The scope is given by lessons 8 - 13 of the	textbook: Pravda -	
French for Beginn	ers . Additional topics and skills are filled in from the textbook Espaces I, lesson 1 - 5 (introductions, invitation, welcoming, agreeme	nt - disagreement,	apology,
thanking, travelling, r	map of France, food, expression of will, wish, order, prohibition, pleasure). Correct pronunciation is practiced. Stress on oral communic	cation. Specific topic	cs covered:
0.4)/570	How does the machine work? A few expressions concerning the study. Name of University and Faculty.	-	
04XFZ3	French for Beginners Z3  Ipon FZ2. Basic linguistic knowledge and skills are developed. The contents is given by lessons 14 - 18 of the textbook: Pravda - Pra	Z Z	2 Roginnore
	and situations are complemented from other materials. Stress is put on oral communication in dialogues and on reading, both for info		- 1
ropico, ramonono o	pronunciation practice. Reading covers short adapted texts of general interest first, and later popular science texts.		ю ран со.
04XFZ4	French for Beginners Z4	Z	2
The course builds u	up on FZ3. Basic linguistic knowledge and skills are further developed. Oral communication and reading skills are practiced. The con	tents is roughly co	vered with
	e textbook French for Beginners, and is expanded with topics and functions from other materials. Reading is developed from the lecture		
Students of FJF1. Ti	he course covers generals and specific topics: health- illness, sport, free time, environment, study, travelling in France, Paris, shoppi	_	sity in our
04XFZ5	country and in France, how to write CV, application, topics in mathematics, reading physics - mechanics, informatics, internet French for Beginners Z5	э 7	2
	reflect for Degriffers 25 ad in FZ4 are further developed, as well as technical language. Students prepare a paper on a chosen popular science topic. They pr		
•	s covered by lessons 24 - 26 of the textbook: Pravda-Pravdova, French for Beginners, and is complemented from other materials. To	=	
notes, success of	f French science and technology, information about France. Grammar is systemized and complemented with syntax (subordinate cla	auses, typical conju	nctions,
	subjunctive clauses, gerund, passive.		
04XFZZK	French for Beginners Examination	ZK	3
The content is the ex	xamination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination as given by the study plan. The course is terminated with an examination consisting of oral and written part. The examination is the course of the course is the study plan. The course is the study plan as given by the course of t	ation is ruled by the	document
04XNM1	German for Intermediate Students M1	Z	2
The objective of the	course is to level off the students' skills in the German language. The course focuses on revision of more difficult phenomena and st	ructures (e.g. the pa	assive) and
	processes (e.g. importance of verb prefixes). In the lexical part, it covers topics referring to higher education in both the Czech Repu	-	
	ues together with all necessary expressions and phrases, expressions and phrases needed to chemists, mathematicians, physicists. erminology. It develops communication on related topics and is aimed at correct pronunciation, grammatical correctness and unders		tals of II
04XNM2	German for Intermediate Students M2	Z	2
	es other more complex grammatical structures and their application in communication based on technical texts, such as the relation be		
	eginning of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers and of		- 1
practise reading for ir	nformation and reading aloud, and appropriate language for various purposes in oral and written communication. The course systematic	cally revises other g	rammatical
	phenomena important for professional discourse (participles, relative clauses).		
04XNM3	German for Intermediate Students M3	Z	2
	es other more complex grammatical structures and their application in communication based on technical texts, such as the relation be Eginning of the 21st century, linguistically more demanding texts on the environment, the language of mathematics, computers and o		- 1
	nformation and reading aloud, and appropriate language for various purposes in oral and written communication. The course systematic	٠,	
	phenomena important for professional discourse (participles, relative clauses).		
04XNMZK	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 examination of		
and oral, which cove	er the courses NM1 - NM3. The oral part follows after passing the written part successfully and after obtaining the 04NM3 assessme is to be obtained from the teacher.	ent. More detailed in	nformation
04XNP1	German for Advanced Students P1	7	2
	s good grammar knowledge, extended general vocabulary, and good communication skills acquired at secondary school to be level	led off at the beginr	
course. The course	e is then focused on working with technical and scientific texts and practising reading techniques (skimming, scanning, reading for de	etail). It revises and	develops
more difficult gramma	ar structures necessary for understanding a subtechnical text (passive voice, participles, participle structures) and it also focuses on prac-	tical everyday comr	munication,
04VND0	i.e., telephoning.	7	
04XNP2 The course develops	German for Advanced Students P2 the students' skills in working with professional scientific texts (understanding, summarising, note-taking, interpreting) while extending	Z   their general and si	2 ubtechnical
•	introduces mathematical expressions and texts of nuclear power engineering. Increasing emphasis is placed on understanding and pra	_	
	th written and oral (CV, letter of application, interview, scholarship), and more complex grammatical structures (i.e., subjunctive, india	-	
04XNP3	German for Advanced Students P3	Z	2
	s of 3 main parts (general communicative situations, grammar and technical topics). Students will develop their vocabulary in a variety	· =	
` '	d car accidents, accident report, filling in a form, complaints). Based on presentations and technical and subtechnical texts, the voca	, ,	
	ineering, the environment, computer science, and car technology, will also be extended. Only authentic professional texts are used. to process information gained from their reading of complex and difficult texts and present it to the class in a simplified oral form. The c		
	practice to and from German.		

04XNPZK	German for Advanced Students Examination	ZK	4			
The course conten	it is the examination as given by the study plan. The whole German for Advanced Students Course is completed by an examination c	onsisting of two pa	rts - written			
and oral, which cover the courses NP1 - NP3. The oral part follows after passing the written part successfully and after obtaining the 04NP3 ungraded assessment. More detailed						
	information is to be obtained from the teacher.		T			
04XRM1	Russian for Intermediate Students M1	Z	2			
_	gned for students with previous knowledge of Russian from secondary schools. Students are supposed to know the Russian alphabet (					
	or communication in everyday situations (introductions, socializing, greetings, shopping for food and objects of everyday need, asking	, ,	**			
they can use bas	sic grammar structures (verbal and nominal forms, irregular verbs, pronouns). The initial knowledge corresponds to the achievement l		urse. The			
0.41//DM0	contents and scope of the course correspond approximately to the RZ3 course, but for half of the time allotted in the timetab					
04XRM2	Russian for Intermediate Students M2	Z	2			
	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					
04XRM3	Russian for Intermediate Students M3	Z	2			
The course develop	ps the knowledge and skills acquired in RM1 and RM2 and its contents and scope are roughly at the same level as those of RZ5, howe	ever, for half of the	time allotted			
04VDMZK	in the timetable.	71/	4			
04XRMZK	Russian for Intermediate Students Examination	ZK	4			
	it is the examination as given by the study plan. The course is completed by taking a written and oral examination testing the knowled Ients are eligible for the oral examination only after a prior pass in RM3 and a successful written examination. Students are given inst					
04XRP1	Russian for Advanced Students P1	7	2			
	uirement for the course is to achieve the B1 CEFR level. The objective of the course is revision of standard language structures, prac		l			
The entrance req	structures, understanding the fundamentals of technical language and training writing skills.	along more amou	t grammai			
04XRP2	Russian for Advanced Students P2	7	2			
	sed on RP1. It expands grammatical structures important for understanding technical texts (verbal adjectives, participles, passives, ve	_	_			
	structures). Stress is put on independent oral and written communication.		o oymaano			
04XRP3	Russian for Advanced Students P3	Z	2			
	ed on RP2 and is mainly focused on working with technical and scientific texts (reading comprehension, oral and written paraphrasing	_				
	od previous knowledge of general language at secondary level (listening, reading, correct communication in everyday situations). The					
	er study is aimed at professional and technical skills (reading technical literature according to the students' specialization, oral and wi	•	-			
develop their subte	chnical vocabulary and practice quick and correct communication in professional situations. They will be able to both speak write acc	urately and with co	nfidence on			
	technical topics.					
04XRPZK	Russian for Advanced Students Examination	ZK	4			
The course conter	nt is the examination as given by the study plan. The course is completed by taking a written and oral examination testing the knowled	lge and skills acqu	ired in RP1			
- RP3. Stud	lents are eligible for the oral examination only after a prior pass in RP3 and a successful written examination. Students are given instr	uctions by the tead	cher.			
04XRZ1	Russian for Beginners Z1	Z	2			
The course represe	ents the first stage of the five-semester programme, its final aim being reading and understanding professional texts written in Russian	. Thus it begins wit	h mastering			
the Russian alphat	bet (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.	<u> </u>	Г			
04XRZ2	Russian for Beginners Z2	Z	2			
The second semes	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte	echnical texts. Stud	lents will be			
The second semes	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subteste using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also	echnical texts. Stud o develop their voc	lents will be			
The second semes able to communica	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in	echnical texts. Stud o develop their voc writing.	lents will be abulary and			
The second semes able to communica 04XRZ3	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3	echnical texts. Stude develop their voc writing.	lents will be abulary and			
The second semes able to communica  04XRZ3  The course is base	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training	chnical texts. Stud o develop their voc writing.  Z various forms of re	lents will be abulary and 2 eading skills			
The second semes able to communica  04XRZ3  The course is base	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be	chnical texts. Stud o develop their voc writing.  Z various forms of re	lents will be abulary and 2 eading skills			
The second semes able to communica 04XRZ3 The course is base and listening) an	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training dintroduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond se	lents will be abulary and 2 eading skills o as to be			
The second semes able to communica 04XRZ3 The course is base and listening) an 04XRZ4	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4	dechnical texts. Students of develop their voc writing.  Z various forms of reable to respond so	lents will be abulary and 2 eading skills o as to be			
The second semes able to communica  04XRZ3 The course is base and listening) an  04XRZ4 The course is base	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in  Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a confidence of the programme is designed as a short text without marked stress. They will be short text without marked stress. They will be able to use it in the programmatical structures. They will be able to use it in the programmatical structures. They will be able to use it in the programmatical structures. They will also all the programmatical structures. They will also and the programmatical	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond selections.	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar			
The second semes able to communica  04XRZ3 The course is base and listening) an  04XRZ4 The course is base words, oral communications	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond selection percentage of differences in veri	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns			
The second semes able to communica O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral comm from Czech, mod	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in  Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training di introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continuation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs)	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond selection percentage is, differences in version of practice oral are	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns and written			
The second semes able to communica O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral comm from Czech, mod	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in  Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training of introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continuitation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), as	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond selection percentage is, differences in version of practice oral are	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns and written			
The second semes able to communica O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral comm from Czech, mod	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in  Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training and introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continuitation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and on more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g.)	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond selection percentage is, differences in version of practice oral are	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns and written			
The second semes able to communical 04XRZ3 The course is base and listening) an 04XRZ4 The course is base words, oral comm from Czech, more communication of 04XRZ5	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in  Russian for Beginners Z3 do on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training do introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 do n RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a commication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and on more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so Z ertain percentage of the control of the contro	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns and written by to fill in 2			
The second semes able to communical 04XRZ3 The course is base and listening) an 04XRZ4 The course is base words, oral communication of 04XRZ5 The course expects	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training di introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a commication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), a form more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so Z ertain percentage of the control of the contro	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns and written bow to fill in 2 ummarizing			
The second semes able to communical O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral communication of Czech, more communication of O4XRZ5 The course expects information from a everyday topics. S	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  India on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training and introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continuation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  In the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication of grammar is based on professional and technical texts and only includes items typically used in professional communication of the professional communication of the professional communication of the professional communic	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so all the respond so all the respondence or all areas of the respondence	lents will be abulary and 2 eading skills to as to be 2 of unfamiliar to patterns and written bow to fill in 2 ummarizing e trained on			
The second semes able to communical O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral communication of Czech, more communication of O4XRZ5 The course expects information from a everyday topics. Spassing	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 and on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training di introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a commication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Committed to the professional information obtained by reading the texts.	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so all the respond so all the respondence or all areas of the respondence	lents will be abulary and  2 eading skills to as to be  2 of unfamiliar to patterns and written ow to fill in  2 ummarizing e trained on participles,			
The second semes able to communical O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral communication of Czech, more communication of O4XRZ5 The course expects information from a everyday topics. Spassiv O4XRZZK	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  Indicates on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training did introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  don RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continuous continuous processes and expands the knowledge of general language in all four skills for everyday situations, writing longer texts.). Students are trained to use grammar structures effectively (e.g., irregular verbs) adality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  Is the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication (we voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a	echnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so at the state of the sta	lents will be abulary and  2 eading skills to as to be  2 of unfamiliar to patterns and written ow to fill in  2 ummarizing e trained on participles,			
The second semes able to communical of the course is base and listening) and of the course is base words, oral communication of the course expects information from a everyday topics. Spassiv O4XRZZK	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  Indicates of the everyday topics, develops understanding of short compact texts on new subtechnical topics (for training dintroduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  Indicates of the everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs of the properties of the everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs of the properties of the everyday situations (food, travelling, free time), and the properties of the properties of the everyday situations (food, travelling, free time), and the properties of the everyday situations (food, travelling, free time), and the properties of the properties of the examination of the everyday situations (food, travelling, free time), and the properties of the everyday situations (food, travelling, free time), and the properties of the propert	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so at the control of the control	lents will be abulary and  2 eading skills to as to be  2 of unfamiliar to patterns and written ow to fill in  2 ummarizing to trained on participles,  3 ired in RZ1			
The second semes able to communical of the course is base and listening) and of the course is base words, oral communication of the course expects information from a everyday topics. Spassiv O4XRZZK  The course conter - RZ5. Studier of the course conter - RZ5. Studier of the communication of the course conter - RZ5. Studier of the course able to communication of the course conter - RZ5. Studier of the course is the course conter - RZ5. Studier of the course of the course conter - RZ5. Studier of the course of the course conter - RZ5. Studier of the course of the course conter - RZ5. Studier of the course of the	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  do on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training di introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  do n RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continuitation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication (we voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, por Russian for Beginners Examination  It is the examination as given by the study plan. T	echnical texts. Stude of develop their voc writing.  Z I various forms of reable to respond so able to respond so and practice oral area, Siberia), learn he z  g, extracting and so nunication skills are verbal adjectives, olite request, etc.)  ZK  Ige and skills acquuctions by the teacure of their vocations of the second so and s	lents will be abulary and  2 eading skills to as to be  2 pof unfamiliar to patterns and written pow to fill in  2 ummarizing e trained on participles,  3 ired in RZ1 cher.			
The second semes able to communical able to communical O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral communication of communication of O4XRZ5 The course expects information from a everyday topics. Sepassive O4XRZZK The course contered to C4XSM1	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  In a confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  In a confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  In a confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  In a confidence the Russian alphabet and will be able to use it in Russian for Beginners Z4  In a confidence the Russian alphabet and will be able to use it in Russian for Beginners Z4  In a confidence the Russian alphabet and will be table to use it in Russian for Beginners Z4  In a confidence the Russian alphabet and will be able to use it in Russian for Beginners Z4  In a confidence the Russian for Beginners Z5  In a confidence the Russian holidays and typical meals.  Russian for Beginners Z5  In a confidence the Russian holidays and typical meals.  Russian for Beginners Z5  In a confidence the Russian holidays and typical meals.  Russian for Beginners Z5  Russian for Beginners Examination  In a confidence the Russian holiday and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Common the specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Common the special rest of the professional and technical texts and only includes items typically used in professional communication (we v	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so and practice oral area, Siberia), learn he z  g, extracting and so nunication skills are verbal adjectives, olite request, etc.)  ZK  Ige and skills acquuctions by the teach	lents will be abulary and  2 eading skills to as to be  2 pof unfamiliar to patterns and written ow to fill in  2 cummarizing e trained on participles,  3 cired in RZ1 cher.  2			
The second semes able to communical able to communical O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral communication of communication of O4XRZ5 The course expects information from a everyday topics. Sepassive O4XRZZK The course contered to C4XSM1 The course is designed to communication of the course contered to C4XSM1 The course is designed to C4XSM1 The course is designed to communication of the course is designed to C4XSM1 The course is designed to communication of the course is designed to C4XSM1 The course is designed to communication of the course is designed to communication of the course is designed to course is	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  If an RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training of introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a councidation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  Is the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication (we voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, pour least and economic vocabulary, and are also trained in some professional skills (writi	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so all the control of the control	lents will be abulary and  2 eading skills to as to be  2 pof unfamiliar to patterns and written ow to fill in  2 cummarizing e trained on participles,  3 circd in RZ1 cher.  2 s standard			
The second semes able to communical able to communical of the course is base and listening) and the course is base words, oral communication of the course expects information from a everyday topics. So passive of the course contermant of the course is desvocabulary and page 200.	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  In add on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training did introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  don RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a continication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs adality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication of the professional state of the professional and technical texts and only includes items typically used in professional communication (we voice). Students develop their technical and economic vocabulary, and are also tra	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so all the respond so and practice oral area, Siberia), learn here are verbal adjectives, olite request, etc.)  ZK dge and skills acquiuctions by the teach accourse developing form of the imperior or developing form of the imperior writing and so and skills acquiuctions by the teach accourse developing form of the imperior writing and so and skills acquiuctions by the teach accourse developing form of the imperior writing and so all the responsibilities and skills acquiuctions by the teach accourse developing form of the imperior writing and so all the responsibilities are successful to the responsibilities and successful the responsibilities are successful to the responsibilities	lents will be abulary and  2 eading skills to as to be  2 pof unfamiliar to patterns and written to patterns ow to fill in  2 ummarizing the trained on participles,  3 paired in RZ1 cher.  2 s standard rative, and			
The second semes able to communical able to communical O4XRZ3 The course is base and listening) an O4XRZ4 The course is base words, oral communication communication of the course expects information from a everyday topics. Sepassive O4XRZZK The course contered to a course content course is desvocabulary and processing the course is desvocabulary and processing to a course cours	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  In a no RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training di introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  don RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a connication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  sithe student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication (vervoice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, point of Beginners Examination)  In tis the examination as given by the study plan. The cours	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so all the respond so and practice oral area, Siberia), learn here are verbal adjectives, olite request, etc.)  ZK dge and skills acquiuctions by the teach accourse developing form of the imperior or developing form of the imperior writing and so and skills acquiuctions by the teach accourse developing form of the imperior writing and so and skills acquiuctions by the teach accourse developing form of the imperior writing and so all the responsibilities and skills acquiuctions by the teach accourse developing form of the imperior writing and so all the responsibilities are successful to the responsibilities and successful the responsibilities are successful to the responsibilities	lents will be abulary and  2 eading skills to as to be  2 of unfamiliar to patterns and written ow to fill in  2 cummarizing e trained on participles,  3 cired in RZ1 cher.  2 s standard rative, and tem.			
The second semes able to communical able to communical of the course is base and listening) and outlined outlined to communication of the course is base words, oral communication of communication of the course expects information from a everyday topics. Spassive O4XRZZK The course conter - RZ5. Stude O4XSM1 The course is designed to compute the course is designed to course content to course is designed to communication of the course is designed to communication of the course is designed to course the course is designed to course is designed to course the course course the course is designed to course the course course the course is designed to course the course is designed to course the course course course the course course	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte to using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will lass master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a c funcication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 Is the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Commutation of the very color, by the study plan. The course is completed by taking a written and oral examination testing the knowled lents are eligible for the oral examination only after a prior pass in RZ5 and a successful written examinatio	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond	lents will be abulary and 2 leading skills to as to be 2 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills to as to be 3 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills to as to be 3 3 lired in RZ1 cher. 2 5 standard rative, and leem. 2			
The second semes able to communical able to communical of the course is base and listening) and outlined outlined to communication of the course is base words, oral communication of communication of the course expects information from a everyday topics. Spassive O4XRZZK The course conter - RZ5. Stude O4XSM1 The course is designed to compute the course is designed to course content to course is designed to communication of the course is designed to communication of the course is designed to course the course is designed to course is designed to course the course course the course is designed to course the course course the course is designed to course the course is designed to course the course course course the course course	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte to using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a councidation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dailty, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Computationally of the professional skills (writing a CV, pore Russian for Beginners Examination  The course is completed by taking a written and oral examination testing the knowled lents are eligible for the oral examination only after a prio	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond	lents will be abulary and 2 leading skills to as to be 2 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills to as to be 3 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills to as to be 3 3 lired in RZ1 cher. 2 5 standard rative, and leem. 2			
The second semes able to communical able to communical of the course is base and listening) and outline of the course is base words, oral communication of communication of the course expects information from a everyday topics. Spassive outline of the course conterning outline o	Russian for Beginners Z2  ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will lake mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3  d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4  d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a convincation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g., forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5  s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication as given by the study plan. The course is completed by taking a written and oral examination testing the knowled evoice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, por Russian for Beginners Examination	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond	lents will be abulary and 2 leading skills to as to be 2 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills to as to be 3 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills to as to be 3 3 lired in RZ1 cher. 2 5 standard rative, and leem. 2 5 order to be 3			
The second semes able to communical able to communical of the course is base and listening) and outline of the course is base words, oral communication of communication of communication of communication of the course expects information from a everyday topics. Spassive outline of the course conterest of the course conterest outline	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a c funcioation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication of the very color. Studying grammar is based on professional and technical texts and only includes items typically used in professional communication (every voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, power of the examination and given by the study plan. The course is completed by tak	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so the processing of the proces	lents will be abulary and 2 leading skills of as to be 2 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills of as to be 2 2 of unfamiliar to patterns and written low to fill in 2 2 leading skills of as to be 3 3 lired in RZ1 leading at the leading at th			
The second semes able to communical able to communical of the course is base and listening) and outlined of the course is base words, oral communication of communication of communication of the course expects information from a everyday topics. Spassing O4XRZZK The course conterring - RZ5. Studing O4XSM1 The course is designed outlined outline	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a cuncication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs on more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understandin specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Commostudying grammar is based on professional and technical texts and only includes items typically used in professional communication (vervice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, pc Russian for Beginners Examination  In it is the examination as given by the study plan. The course is completed by ta	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so the torespond so	lents will be abulary and 2 leading skills of as to be 3 leading skills of			
The second semes able to communical able to communical of the course is base and listening) and outlined of the course is base words, oral communication of communication of communication of the course expects information from a everyday topics. Spassing O4XRZZK The course conterring - RZ5. Studing O4XSM1 The course is designed outlined outline	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a c funcioation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Communication of the very color. Studying grammar is based on professional and technical texts and only includes items typically used in professional communication (every voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, power of the examination and given by the study plan. The course is completed by tak	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so able to respond so and practice oral art., Siberia), learn he compared to the c	lents will be abulary and 2 leading skills of as to be 3 leading skills of			
The second semes able to communical able to communical of the course is base and listening) and outlined outlined to communication of the course is base words, oral communication of communication of communication of the course expects information from a everyday topics. Spassive outlined outlined to course contermand outlined outlined to course is designed to consider the course is designed outlined to course development of the course development outlined to course development of the course books are nough to use the	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a c nunication in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), a namore specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 sthe student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding vervoice). Students develop their technical and technical texts and only includes items typically used in professional communication vervoice). Students develop their technical and technical texts and only includes items typically used in professional skills (writing a CV, por Russian for Beginners Examination  In its the examination as given by the study plan. The course is c	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so able to respond so and practice oral art., Siberia), learn he compared to the c	lents will be abulary and 2 leading skills of as to be 3 leading skills of			
The second semes able to communical able to communical of the course is base and listening) and outlined outlined to communication of the course is base words, oral communication of communicati	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte te using short sentences and appropriate structures, and read aloud with confidence the Russian alphabet and will be able to use it in Russian for Beginners Z3 d on RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a c uniciation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 sithe student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Common specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Common services in the examination as given by the study plan. The course is completed by taking a written and oral examination testing the knowled lents are eligible for the oral examination only after a prior pass in RZ5 and a successful	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so able to respond so and practice oral art., Siberia), learn he compared to the c	lents will be abulary and 2 leading skills of as to be 2 2 of unfamiliar to patterns and written ow to fill in 2 lummarizing e trained on participles, 3 lired in RZ1 cher. 2 s standard rative, and lem. 2 order to be 2 le competent maries. The 4			
The second semes able to communical able to communical of the course is base and listening) and outlined outlined to communication of the course is base words, oral communication of communicati	Russian for Beginners Z2 ster of the programme is designed to teach skills for basic communication in everyday situations and for reading easy and short subte the using short sentences and appropriate structures, and read aloud with confidence a short text without marked stress. They will also master further grammatical structures. They will have mastered with confidence the Russian alphabet and will be able to use it in a RZ2 and includes further everyday topics, develops understanding of short compact texts on new subtechnical topics (for training d introduces new grammar. Students will be trained to distinguish intonation patterns while listening to spoken language. They will be understood, and to express their opinion. Writing skills will be trained on guided writing tasks and note-taking.  Russian for Beginners Z4 d on RZ3. It improves and expands the knowledge of general language in all four skills (reading and understanding longer texts with a convictation in everyday situations, writing longer texts). Students are trained to use grammar structures effectively (e.g., irregular verbs dality, imperatives, conditionals). They practice and develop communication skills for everyday situations (food, travelling, free time), and more specific topics (environment, addictions, the green movement). They become acquainted with various geographical data (e.g. forms, look up the information from the timetable, learn about Russian holidays and typical meals.  Russian for Beginners Z5 s the student to have completed RZ4. It concentrates predominantly on reading skills (working with professional texts, i.e. understanding specialized text) and speaking, and to a certain extent, writing about the professional information obtained by reading the texts. Committed they are considered professional and technical texts and only includes items typically used in professional communication we voice). Students develop their technical and economic vocabulary, and are also trained in some professional skills (writing a CV, potal stru	chnical texts. Stude of develop their voc writing.  Z various forms of reable to respond so able to respond so able to respond so and practice oral art., Siberia), learn he compared to the c	lents will be abulary and 2 leading skills of as to be 2 2 of unfamiliar to patterns and written ow to fill in 2 lummarizing e trained on participles, 3 lired in RZ1 cher. 2 s standard rative, and lem. 2 order to be 2 le competent maries. The 4			

04XSP1 Course concentrate	·		
Course concentrate	Spanish for Advanced Students P1	Z	2
	es on more difficult grammar topics, revision of vocabulary, basics of Spanish for specific purposes as well as written communication. of CEFR.	Course prerequis	sites: level B
047600	,	Z	1 2
04XSP2	Spanish for Advanced Students P2 second part of the advanced Spanish course, extending Spanish for specific purposes topics. It comprises more grammar and syntax		2
000136 01 2 IS tile	written communication.	and locuses on	independen
04XSP3	Spanish for Advanced Students P3	Z	2
	final part of the advanced Spanish course. It is based on texts chosen by the students according to their future specialization. It is focus	_	_
	based on what students will need in their career.		
04XSPZK	Spanish for Advanced Students Examination	ZK	4
he course conten	t is the examination as given by the study plan. Examination SPZK consists of two parts, namely oral and written. The prerequisite for a	dmission to oral p	part is havin
	passed the written test. Examination content is based on syllabi of courses SP1, SP2, and SP3 or on an individual study plan of the		
04XSZ1	Spanish for Beginners Z1	Z	2
	first stage of the five-semester programme of Spanish studies; during the first stage the students will master phonetics and fundamenta		
	communicate at an elementary level on topics of everyday life. They will acquire and extend fundamental vocabulary of general Spani		Ī
04XSZ2	Spanish for Beginners Students Z2 ed on course SZ1, and expects students to develop and extend the knowledge and skills acquired so far. Grammar structures and lexis	Z will be chosen so	2
	d short adapted written texts and speech. Attention is also paid to cultural differences between Spanish-speaking countries and others		
	Realia of Spanish-speaking countries are also included.	- 040.1.40 1.10 020	2011 1 top dia
04XSZ3	Spanish for Beginners Z3	Z	2
	ed on course SZ2, and develops the student's vocabulary and grammar structure. The course covers realia (history and culture) of the	Spanish-speaki	I
mainly of Spain.	It pays attention to further grammar topics (pretérito perfecto, pretérito indefinido, pretérito imperfecto, the gerund and the imperative)	. It includes writte	en 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	Z	2
	ed on course SZ3. It develops the student's vocabulary and extends the knowledge of the culture and social customs of the Spanish s		
	ntion to further grammar topics (perifrasis verbales, futuro imperfecto, direct object and indirect object pronouns, negative form of the	= -	subjunctive)
04XSZ5	to written and oral communication on a given general or subtechnical topic, for which the student is trained by reading texts or listenir  Spanish for Beginners Z5	Z	2
	are supplemented with additional subtechnical materials, so the students will be gradually acquainted with peculiarities of Spanish for	_	_
ne course books	part, the general Spanish course based on the course book will end with presentations and, finally, a written and oral examinat		
04XSZZK	Spanish for Beginners Examination	ZK	3
	ent is the examination as given by the study plan. Examination consists of two parts - written and oral. Student can register for oral examination		_
	passed the written examination test.		
11GNU	GNU Programming	KZ	4
	rse is to introduce students into the Linux system environment and therein used GNU utilities and programming tools to such a level, i	•	
nese tools for crea	ting scripts and programs for processing acquired or simulated data for their experiments in physics with the use of the facultys Hyperion	n cluster (howeve	er the learne
	skills could of course be applied to any Linux system).		1 -
12AUX	Administration of UNIX System	KZ	2
40010454	Basic and more advanced administration of Unix operating system	Z,ZK	4
12NME1	Numerical Methods 1   d the basic principles of numerical mathematics important for numerical solving of problems important for physics and technology. Met		
•	icists (ordinary differential equations, random numbers) are included in addition to the basic numerical methods. Integrated computati		
	used as a principle programming language as a demonstration tool. The seminars are held in computer laboratory.		
		0.1.0.1	( WAI LAD IS
12PYTH		Z	2
12PYTH he aim of this cou	Scientific Programming in Python  rse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place	Z	2
he aim of this cou problems. The co	Scientific Programming in Python  rse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studen	Z d on effective sol	2 lutions to reats are also
he aim of this cou problems. The co involved in ongoin	Scientific Programming in Python  Inse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studening research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or f	Z d on effective sol t theses. Student	2 lutions to rea ts are also mming. The
he aim of this cou problems. The co involved in ongoin	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or fee course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy	Z d on effective sol t theses. Student	2 lutions to rea ts are also mming. The
ne aim of this cou problems. The co involved in ongoin greater part of th	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.	Z d on effective sol at theses. Student functional prograr and the Matplotli	2 lutions to reats are also mming. The ib graphics
he aim of this cou problems. The co involved in ongoin greater part of the 12UNXAP	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX	Z d on effective sol at theses. Student functional prograr and the Matplotli	2 lutions to reats are also mming. The ib graphics
he aim of this cou problems. The co involved in ongoin greater part of the 12UNXAP Computer and co	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for ecourse focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interface.	Z d on effective sol at theses. Student functional prograr and the Matplotli Z se. Hardware and	2 lutions to reats are also mming. The ib graphics 2
he aim of this couproblems. The couproblems. The couproblems in ongoing greater part of the second s	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX	Z d on effective sol at theses. Student functional prograr and the Matplotli Z e. Hardware and h files. Text editor	2 lutions to reats are also mming. The ib graphics 2 l software. rs: vi, emacs
he aim of this couproblems. The coinvolved in ongoing greater part of the 12UNXAP Computer and corinciples of opera Command interpretable and other command co	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  Operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with the processor of the course of the cou	Z d on effective sol at theses. Student functional prograr and the Matplotli Z e. Hardware and h files. Text editor ools. Graphical us	2 lutions to reats are also mming. The ib graphics 2 l software. rs: vi, emace ser interface
rhe aim of this couproblems. The couproblems. The couproblems in ongoing greater part of the second	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  Operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with teter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to	Z d on effective sol at theses. Student functional prograr and the Matplotli Z e. Hardware and h files. Text editor ools. Graphical us	2 lutions to rea ts are also mming. The ib graphics  2 I software. rs: vi, emacs ser interface
he aim of this couproblems. The coinvolved in ongoingreater part of the 12UNXAP Computer and coinciples of opera Command interpretable and other command comma	Scientific Programming in Python  Irse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for the course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  speciating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with teter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a computer networks.	Z d on effective sol at theses. Student functional prograr and the Matplotli Z e. Hardware and h files. Text editor ools. Graphical us	2 lutions to rea ts are also mming. The ib graphics  2 I software. rs: vi, emacs ser interface
he aim of this couproblems. The coinvolved in ongoing greater part of the 12UNXAP Computer and crinciples of opera Command interprox-windows. Cor 12UPF1 umerical simulations.	Scientific Programming in Python  Inserting is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for the course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  Operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with effect (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to impute networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a computer networks. Local computer networks. Global computer networks applications  Introduction to Computational Physics 1  Introduction to Computer languages for physics. Numerical libraries and program I	Z d on effective sol ht theses. Student runctional prograr and the Matplotli  Z e. Hardware and h files. Text editor pols. Graphical us pmputer. Network  Z,ZK ibraries for physic	2 lutions to reat ts are also mming. The ib graphics  2 I software. rs: vi, emacs are interface a services:  2 cs. Compute
the aim of this couproblems. The couproblems. The couproblems in ongoin greater part of the second s	Scientific Programming in Python  Inserting is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for the course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  Operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with effect (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to impute networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a computer networks. Local computer networks. Global computer networks applications  Introduction to Computational Physics 1  Introduction to Computational Physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of incomputer intervals.	Z d on effective sol ht theses. Student runctional prograr and the Matplotli  Z e. Hardware and h files. Text editor pols. Graphical us pmputer. Network  Z,ZK ibraries for physic	2 lutions to reat ts are also mming. The ib graphics  2 I software. rs: vi, emacs are interface a services:  2 cs. Compute
he aim of this couproblems. The coinvolved in ongoing reater part of the 12UNXAP Computer and crinciples of opera Command interprox-windows. Cor 12UPF1 color for scientific viols for scientific violation and scientific	Scientific Programming in Python  Inserting is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python? from basic types to object oriented or five course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  Operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working wite eter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a configuration to Computational Physics 1  Introduction to Computational Physics 1  Introduction to Computational Physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of software for parallel simulations. Databases of scientific information, scientist evaluation, citation analysis.	Z d on effective sol ht theses. Student runctional prograr and the Matplotli  Z e. Hardware and h files. Text editor ols. Graphical us pmputer. Network  Z,ZK ibraries for physic computing, paralle	2 lutions to reat ts are also mming. The lib graphics  2 I software. rs: vi, emacs are interface a services:  2 cs. Compute el computing
the aim of this couproblems. The coinvolved in ongoin greater part of the 12UNXAP Computer and corinciples of opera Command interprox-windows. Cor 12UPF1 lumerical simulations for scientific vince 12UPF2	Scientific Programming in Python  Insertific Computer Insertification  Insertific Programming in Python  Ins	Z d on effective sol at theses. Student functional program and the Matplotli  Z se. Hardware and the files. Text editor sols. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK	2 lutions to reat ts are also mming. The lib graphics  2 I software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing
he aim of this couproblems. The coinvolved in ongoing reater part of the 12UNXAP Computer and corinciples of opera Command interprox-windows. Cor 12UPF1 color for scientific visual for scientific vi	Scientific Programming in Python  rese is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or student gresearch. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for the course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with terer (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to a process to the programming (scripts) in the programming processes, process status, computer load a process priorities. Standard to a process to the programming processes, process status, computer load a process priorities. Standard to a process to the programming processes, process status, computer load a process priorities. Standard to a process to the programming programming processes, process status, computer load a process priorities. Standard to a process priorities are processed process. Introduction to Computational Physics 1  On and its role in physics, methodology of writing computer codes. Computer languages for physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of software for parallel simulations. Databases of scientific information, scientist evaluation, citation analysis	Z d on effective sol at theses. Student functional program and the Matplotli  Z se. Hardware and the files. Text editor sols. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK	2 lutions to reat ts are also mming. The lib graphics  2 I software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing
The aim of this couproblems. The coinvolved in ongoin greater part of the second of th	Scientific Programming in Python  rese is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or student gresearch. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for ecourse focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with reter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inpute networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a configuration to Computational Physics 1  on and its role in physics, methodology of writing computer codes. Computer languages for physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of software for parallel simulations. Databases of scientific information, scientist evaluation, citation analysis.  Introduction to Computational Physics 2  complex systems, chaotic systems, fractals and their applications in physics. Artificial intelligence methods: neural networks, machine expert systems and their applications in physics. Quantum computing. Virtual reality.	d on effective sol at theses. Student functional program and the Matplotli  Z e. Hardware and h files. Text editor sols. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms
the aim of this couproblems. The coinvolved in ongoing greater part of the second seco	Scientific Programming in Python  rse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or fee course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  perating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working wite reter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to imputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a computer networks. Local computer networks are sharing, mail, scp, etc. Network applications  Introduction to Computational Physics 1  on and its role in physics, methodology of writing computer codes. Computer languages for physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of software for parallel simulations. Databases of scientific information, scientist evaluation, citation analysis.  Introduction to Computational Physics 2  complex systems, chaotic systems, fractals and their applications in physics. Artificial intelligence methods: neural networks, machine expert systems and their applications in physics. Quantum computing. Virtual reality.	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor pols. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms
The aim of this couproblems. The coinvolved in ongoin greater part of the second secon	Scientific Programming in Python  rese is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or student gresearch. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for ecourse focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  operating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with reter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inpute networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a configuration to Computational Physics 1  on and its role in physics, methodology of writing computer codes. Computer languages for physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of software for parallel simulations. Databases of scientific information, scientist evaluation, citation analysis.  Introduction to Computational Physics 2  complex systems, chaotic systems, fractals and their applications in physics. Artificial intelligence methods: neural networks, machine expert systems and their applications in physics. Quantum computing. Virtual reality.	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor pols. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms
The aim of this couproblems. The coinvolved in ongoin greater part of the 12UNXAP Computer and cornciples of opera Command interprix-windows. Cornciples of opera Command interprix-windows. Cornciples of opera Command interprix-windows. Cornciples for scientific vols	Scientific Programming in Python rse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python? from basic types to object oriented or fee course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX perating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working with eter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a configuration of a conf	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor pols. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms
the aim of this couproblems. The coinvolved in ongoing greater part of the 12UNXAP Computer and corinciples of opera Command interprious for scientific viols for scientific viol	Scientific Programming in Python  rse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studering research. In the introductory part of the course, students learn the basic features of Python? from basic types to object oriented or fee course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  poperating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working wite reter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to imputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a configuration of the program in the program of	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor ools. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK data fitting, sepa	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms  2 ration of the
The aim of this couproblems. The coinvolved in ongoing greater part of the 12UNXAP Computer and corriciples of opera Command interprious X-windows. Corriciples of scientific viols for scientific violation for scientific	Scientific Programming in Python  rese is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studern gresearch. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for ecourse focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  sperating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working wite eter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configuration of a conjuder networks. Global computer networks applications  Introduction to Computational Physics 1  on and its role in physics, methodology of writing computer codes. Computer languages for physics. Numerical libraries and program I isualization. Computational fluid dynamics, hydrodynamic simulations, methods for discretization of Euler equations. High-performance of software for parallel simulations. Databases of scientific information, scientist evaluation, citation analysis.  Introduction to Computational Physics 2  complex systems, chaotic systems, fractals and their applications in physics. Artificial intelligence methods: neural networks, machine expert systems and their applications in physics. Artificial intelligence methods: neural networks, machine expert systems and their applic	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor ools. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK data fitting, sepa	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms  2 ration of the
the aim of this couproblems. The coinvolved in ongoing greater part of the 12UNXAP Computer and corinciples of opera Command interprious for scientific viols for scientific viol	Scientific Programming in Python  rse is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studer no presearch. In the introductory part of the course, students learn the basic features of Python?from basic types to object oriented or for ecourse focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  perating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfacting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file atributes, working wite teter (shell) bash and its programming (scripts). Controlling processes, process status, computer load a process priorities. Standard to inputer networks. Local computer networks. Global computer networks. Addresses and protocols TCP/IP. Network configutation of a conjunct of the process priorities. Standard to inpute networks. Scientific in physics 1  Introduction to Computational Physics 1  Introduction to Computational Physics 1  Introduction to Computational Physics 2  complex systems, chaotic systems, fractals and their applications in physics. Artificial intelligence methods: neural networks, machine expert systems, fractals and their applications in physics. Quantum computing. Virtual reality.  Measurement and Data Processing  for the measurements and data processing and result interpretation: errors, precision, accuracy, normal distribution and its propeties, signal from the noise.  Creating Electronic Documents  atting and presenting student theses. Individual exercises focus on creating and formatting texts, equations, charts, tables, pr	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor ools. Graphical us proputer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK data fitting, sepa	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms  2 ration of the
The aim of this couproblems. The colinvolved in ongoing greater part of the 12UNXAP Computer and corrections of operations of the 12UPF1 Command interproved and the 12UPF1 Computer and color for scientific volumerical simulations for scientific volumer	Scientific Programming in Python  rese is to learn the fundamentals of the modern Python programming language with a focus on scientific computing. Emphasis is place  ourse is performed in an interactive form of practical exercises, whose topics can be tailored to the content of other subjects or studer  gresearch. In the introductory part of the course, students learn the basic features of Python? from basic types to object oriented or for  gresearch. In the introductory part of the course, students learn the basic features of Python? from basic types to object oriented or for  gresearch. In the introductory part of the course, students learn the basic features of Python? from basic types to object oriented or for  gresearch. In the introductory part of the course, students learn the basic features of Python? from basic types to object or student  for course focuses on specific features of Python for scientific programming. Presented are the main numerical libraries NumPy, SciPy  library. We show how to generate efficient code, how to combine Python with other languages, what tools are available.  Introduction to UNIX  perating systems. Personal computer, workstation and supercomputers. Processor, memory, bus, devices, hard disk, network interfact  ting systems. Operating system UNIX. Basic principles, kernel, kernel services. Documentation. File system, file attributes, working wit  teter (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 control of program in the pr	Z d on effective sol at theses. Student functional prograr and the Matplotli  Z e. Hardware and h files. Text editor ools. Graphical us computer. Network  Z,ZK ibraries for physic computing, paralle  Z,ZK e learning, genetic  Z,ZK at a fitting, sepa  KZ as and entire doc  KZ vior, basics of ma	2 lutions to reat ts are also mming. The lib graphics  2 l software. rs: vi, emacs ser interface a services:  2 cs. Compute el computing  2 c algorithms  2 luments in a

18AAIO	Applications of AI for image processing	KZ	3
18AOV	Applied operational research	Z,ZK	4
	their real applications and problem solving by means of the current software products.	•	possibilities (
18BPSE1	Bachelor Thesis 1	Z	5
	ct is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by the project		
240 p. 0,0	regular meetings and discussions.	остопрогилост и	ag co
18BPSE2	Bachelor Thesis 2	Z	10
	ct is based on a topic approved by the administrators of the programme, department and by the dean. The student is guided by the project		_
. ,	regular meetings and discussions.		Ü
18CLOUD	Virtualization and cloud technologies	KZ	3
	urse is to introduce the principles and technological foundations of cloud systems. Students will be introduced to the architectures of c		ms, principle
of application vir	tualization and they will learn how to use these technologies in practice. A fundamental part of the course is using containers, which is	currently the m	ost efficient
echnology for man	aging complex software systems. The practical part of the course covers tools for automatic configuration, testing, monitoring and deployn	nent of virtualize	d application
18EKN	Econometrics	Z,ZK	4
conometrics is ba	sed on economic theory and the relations between economic quantities are expressed by mathematical tools and observed data from	n economic reali	ty. The cours
overs basic instru	ments of econometric analysis as the basic econometric model, the generalized model, the system of simultaneous equations and instru	uments for econ	ometric mod
	verification.		
18GUI	Construction og Grafical user nterface	Z	2
he course introdu	ices to the graphical user interface, its design and creation. Practical problems and their solutions will be demonstrated in the exercise	s. Students will I	earn to crea
	simple RAD applications		
18INTA	Development of internet applications	KZ	4
•	de an overview of modern technologies for the development of web applications. Students will learn basic web languages and concept		
vill also be introdu	ced to relational database systems. The tutorials are dedicated to practical examples of building web applications, from the simplest to		d. The cours
	is oriented primarily towards backend technologies and using the Python languages, but covers also frontend frameworks and Jav	-	
18MAK1	Macroeconomics 1	Z,ZK	4
	I provides students with a fundamental theoretical basis for understanding how an economy works. It introduces main macroeconom		
	quilibrium theory, fundamentals of open economy theory, inflation, unemployment, economic growth, economic fluctuations, basic mac		
S-AD and their im	plications for economic policies. The learning outcomes of the course is to equip students with ability to analyze macroeconomic phenom	ena and their int	erconnectio
	and subsequently to use them under the conditions of modern economic life.		
18MAK2	Macroeconomics 2		
		Z,ZK	4
Macroeconomics	II extends theoretical knowledge acquired from Macroeconomics I of its students with the latest knowledge of contemporary macroec	•	1 -
	Ill extends theoretical knowledge acquired from Macroeconomics I of its students with the latest knowledge of contemporary macroece, especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to me	onomics. They a	re models o
economic growth,		onomics. They a odern principles	of economi
economic growth,	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to me	onomics. They a odern principles	of economic
economic growth,	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students	onomics. They a odern principles	of economic
economic growth, modeling, i.e., mac	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to me roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to me roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to me roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to me roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to me roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students are reconstructed from microeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations.	onomics. They a odern principles dents with mode Z,ZK	are models of of economic ern knowledg
economic growth, nodeling, i.e., mac 18MIK	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomics and their rational expectations. It also provides students are modeling.  Microeconomics	onomics. They a odern principles dents with mode  Z,ZK economics expla	are models of of economic ern knowledgern
economic growth, nodeling, i.e., mac 18MIK	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics	onomics. They a odern principles dents with mode  Z,ZK economics expla	are models of of economic ern knowledgern
economic growth, nodeling, i.e., mac 18MIK dicroeconomics is	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation	onomics. They a odern principles dents with mode  Z,ZK economics expla	are models of of economic ern knowledgern
economic growth, nodeling, i.e., mace 18MIK dicroeconomics is rices and markets 18NES1	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.	conomics. They a codern principles dents with mode  Z,ZK economics expla on of microecono  KZ	of economic ern knowleds  4  ins the role omic concep
economic growth, nodeling, i.e., mace 18MIK dicroeconomics is rices and markets 18NES1	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students for market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1	conomics. They a codern principles dents with mode  Z,ZK economics expla on of microecono  KZ	of economic ern knowleds  4  ins the role omic concep
economic growth, nodeling, i.e., mace 18MIK dicroeconomics is rices and markets 18NES1	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to flabor market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and other controls of the conomic and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students to more received and economics and their rational expectations. It also provides students are received and economics are received and economics and economics and economics are received and economics are received and economics	conomics. They a codern principles dents with mode  Z,ZK economics expla on of microecono  KZ	of economic ern knowleds  4  ins the role omic concep
economic growth, nodeling, i.e., mace 18MIK dicroeconomics is trices and markets 18NES1 The aim of the contents 18NES2	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to flabor market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.	onomics. They a odern principles dents with mode  Z,ZK economics expla on of microecono  KZ er related mach	re models of of economic ern knowledgern k
18MIK Microeconomics is vices and markets  18NES1 The aim of the c	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2	onomics. They a odern principles dents with mode  Z,ZK economics expla on of microecono  KZ er related mach	re models or of economic ern knowledgern k
economic growth, nodeling, i.e., madeling, i.e	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students expectations and their rational expectations. It also provides students of labor market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and other techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models atasks.	onomics. They a odern principles dents with mode  Z,ZK economics expla on of microecono  KZ er related mach	re models o of economic ern knowledgern kn
economic growth, nodeling, i.e., madeling, i.e	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  ree "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models are "Neural Networks" in the international networks are allocated among alternative	onomics. They a odern principles dents with mode  Z,ZK economics expla on of microecono  KZ er related mach	re models o of economic ern knowledgern kn
economic growth, nodeling, i.e., mach 18MIK flicroeconomics is rices and markets  18NES1 The aim of the countries is the aim of the countries is the second in the countries is the second in the seco	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students with provided to flabor market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models atasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall	onomics. They a odern principles dents with mode  Z,ZK economics expla on of microecono  KZ er related mach  KZ and methods to s	re models of economic ern knowledgern know
economic growth, nodeling, i.e., madeling, i.e., madeling, i.e., madeling, i.e., madeling in the country in the	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more considerable derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more considerable derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more clear behavior of the processes by which the scarce resources are allocated among alternative uses. Microeconomics as each of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models atasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java	onomics. They a odern principles dents with mode  Z,ZK economics expla on of microecono  KZ er related mach	4 dins the role omic conception learning 3 solve practice.
18MIK flicroeconomics is rices and markets  18NES1 The aim of the country and	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students makes more clear behaviour of the economic agents. Lectures are allocated among alternative uses. Microes in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.    Neural Networks 1	onomics. They a podern principles dents with mode Z,ZK economics explain on of microeconomics explain the control of microeconomics. They are control of microeconomics explain the control of microeconomics explain the control of microeconomics. They are control of the control of microeconomics explain the control of microeconomics exp	4 4 ins the role omic concep 5 ine learning 3 solve practic 2
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country and t	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to flabor market modeling.    Microeconomics	z,zK zconomics. They a podern principles dents with mode z,zK zconomics expla on of microecono KZ er related mach KZ and methods to s KZ Z,zK	4 4 ins the role omic conception learning 3 solve practic 2
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country is a simple of the country is	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more role and the programming in MATLAB  Programming in MATLAB  Microeconomics  Also provides students to microeconomic behavior of subjects and economics and their rational expectations. It also provides students to meroeconomics  Microeconomics  Also provides students market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics and the scarce resources are allocated among alternative uses. Microeconomics are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Neural Networks 1  See "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  The goal is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  Development as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analyses.	z,zK zconomics. They a podern principles dents with mode z,zK zconomics expla on of microecono KZ er related mach KZ and methods to s KZ Z,zK	4 4 ins the role omic conception learning 3 solve practic 2
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country and t	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to microeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students makes models of labor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Neural Networks 1  Neural Networks 1  It is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and othe techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  It is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  The environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analyse and geometric representation of results.	onomics. They a podern principles dents with mode Z,ZK economics explain on of microeconomics explain and methods to see Z,ZK explain methods	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country aim of the count	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students with a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanative does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  The reperson of results.  Programming in Python 1	onomics. They a podern principles dents with mode Z,ZK economics explain on of microeconomics explain and methods to see Z,ZK explain methods to see Z,ZK explain methods to see Z,ZK explain statistics, alg	re models of economic ern knowledgern know
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country and t	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more clear behavior of the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.    Neural Networks 1	onomics. They a podern principles dents with mode Z,ZK economics explain on of microeconomics explain on of microeconomics. KZ er related mach KZ and methods to see KZ Z,ZK Explain explain on the control of t	re models of economic ern knowledgern know
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country  18PMTL ntroducing Matlat  18PPY1 his course introducaradigms. The foll	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to flabor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and other techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  res "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  of environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analyse and geometric representation of results.  Programming in Python 1  to environment as efficient tool deathers of the Python language and common scientific packages. The course covers both object-oriented as wowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date	onomics. They a podern principles dents with mode Z,ZK economics explain on of microeconomics explain of microeconomics. KZ explain expl	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country aim of the count	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students of labor market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and other techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  Is "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  The course development of the basic types of applications for this platform.  Programming in Python 1  The course describes the use of Python language and common scientific packages. The course covers both object-oriented as a coving part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date Programming in Python 2	onomics. They a podern principles dents with mode a commics explain on of microecond kZ er related mach kZ explain dents to state kZ explain the kZ explain	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country aim of the count	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students of labor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1  ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  or environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  coes students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as vowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date of the programming in Python 2  o	onomics. They a podern principles dents with mode a commics explain on of microecond kZ er related mach kZ explain dents to state kZ explain the kZ explain	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country  18NES2 he aim of the country  18PMTL ntroducing Matlat  18PPY1 his course introduaradigms. The foll  18PPY2 This course introducing matches	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more roeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students of labor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  The goal is to teach students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  Denvironment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  Coes students to advanced features of the Python language and common scientific and technical computing (NumPy and SciPy packages), date the programming in Python 1  Coes students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar whe accompanied by a short demo of a real-world applic	onomics. They a podern principles dents with mode a commics explain on of microecond on of	re models of economic ern knowledgern know
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country and t	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rise "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  De environment as efficient tool for computation in comptx arrays and symbolic variables, namely for linear algebra, mathematic analyse and geometric representation of results.  Programming in Python 1  to environment as describes the use of Python language and common scientific packages. The course covers both object-oriented as wowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date the programming in Python 2  Deduces students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar what accompanied by a short demo of a real-world app	onomics. They a podern principles dents with mode a commics explain on of microecond on of	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country and t	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more of labor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rise "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  In environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  ces students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as wowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date Programming in Python 2  Deduces students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar what accompanied by a short demo of a real-world applicatio	onomics. They a podern principles dents with mode a commics explain on of microecond on of	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country and t	respecially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to microeconomic market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics are the seconomic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  Is "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  Perogramming in MATLAB  Perogramming in Python 1  Less students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as vowing part of the course describes the use of Python language and common scientific and technical computing (NumPy and SciPy packages), date the programming in Python 2  Deduces students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar what accompanied by a short demo of a real-world application in the specific field.  Programming in Python 3  Is intended for students who have basic experience	onomics. They a codern principles dents with mode a consistence of the	are models of economic ern knowledgern kno
18MIK Alicroeconomics is strices and markets  18NES1 The aim of the country  18NES2 The aim of the country  18PMTL Introducing Matlat  18PPY1 This course introductors introdu	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more of labor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rise "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  In environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  ces students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as wowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date Programming in Python 2  Deduces students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar what accompanied by a short demo of a real-world applicatio	onomics. They a podern principles dents with mode a commics explain on of microecond on of	are models of economic ern knowledgern kno
18MIK Alicroeconomics is rices and markets  18NES1 The aim of the country and	respecially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more reconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to microeconomic market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics are the seconomic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  Is "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  Perogramming in MATLAB  Perogramming in Python 1  Less students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as vowing part of the course describes the use of Python language and common scientific and technical computing (NumPy and SciPy packages), date the programming in Python 2  Deduces students to practical applications of the Python language in scientific as well as commercial fields. The course is a seminar what accompanied by a short demo of a real-world application in the specific field.  Programming in Python 3  Is intended for students who have basic experience	onomics. They a codern principles dents with mode a consistence of the	are models of economic ern knowledgern kno
18MIK Alicroeconomics is rices and markets  18NES1 The aim of the country and	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to moreoconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to microeconomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microeconomics agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  Inse "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  In environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  In the fields of scientific and technical computing (NumPy and SciPy packages), date the programming in Python 3  The programming in Python 3  The programming in Python and using its libraries. It introduces students to advanced features who have basic experience with programming in Python and using its libraries. It introduces students to advanced for students who have basic experience with programming in Pytho	onomics. They a podern principles dents with mode a consistence of the	are models of economic ern knowledgern kno
18MIK Alicroeconomics is rices and markets  18NES1 The aim of the country and the country are aliced at the country are al	respecially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more occonomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to more occonomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students of labor market modeling.  Microeconomics  a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Neural Networks 1  In the seminary is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and othe techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  In the seminary is to acquaint students with basic models of deep neural networks and teach them how to apply these models at asks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  In environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  Consessible of the development of the basic types of applications for this platform.  Programming in Python 1  Consessible of the development of the basic types of applications for this platform.  Programming in Python 1  Consessible of the course describes the use of Python language and common scientific packages. The course co	onomics. They a codern principles dents with mode a commics explains on of microecond and methods to state and methods to state a commic a processing and a processing and a processing and a commic a commic a commic a commic a commic a commic a commit a co	are models of of economic ern knowledgern
18MIK Alicroeconomics is rices and markets  18NES1 The aim of the country is a series in troducing Matlat  18PPY1 This course introducing markets  18PPY3 This course introducing Matlat  18PPY3 This course introducing Matlat  18PPY2 This course introducing Matlat  18PPY3	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to moreocomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to distormarket modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  Ourse 'Neural Networks 1' is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and othe techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese 'Neural Networks 2' is to acquaint students with basic models of deep neural networks and teach them how to apply these models: a tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  of environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  ces students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as wowing part of the course describes the use of Python in the fields of scientific as well as commercial fields. The course is a seminar whaccompanied by a short demo of a real-world application in the specific field.  Programming in Python 3  rese is intended for students who have basic experience with programming in Python and using its libraries	onomics. They a codern principles dents with mode a commics explains on of microecond on of	are models of economic ern knowledgern kno
18MIK Alicroeconomics is strices and markets  18NES1 The aim of the country of th	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to more conomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students to microeconomic models derived from microeconomic behavior of the bornarket modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microe in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanation does not require knowledge of calculus.  Neural Networks 1  ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  rese "Neural Networks 2" is to acquaint students with basic models of deep neural networks and teach them how to apply these models of tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  of environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  rese students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as wowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date Programming in Python 2  Programming in Python 3  rese is intended for students who have basic experience with programming in Python and using its	onomics. They a codern principles dents with mode a codern principles dents with mode a consistency of microecond and methods to see the consistency of the consistency of the codern processing and a processing and a processing and a codern preservanced concepts and the concepts are concepts and the codern preservanced concepts and the codern principles and the codern principles and the codern preservanced concepts and the codern principles are codern principles and the codern principles and the codern principles are codern principles and the codern	are models of economic ern knowledgern kno
18MIK dicroeconomics is rices and markets  18NES1 The aim of the country is a series in the country in the country is a series in the country in the country in the country is a series in the country in the c	especially those with an emphasis on the role of human capital and technological progress. Furthermore, it introduces students to moceonomic models derived from microeconomic behavior of subjects and economics and their rational expectations. It also provides students of labor market modeling.  Microeconomics a set of theories, which help us to understand processes by which the scarce resources are allocated among alternative uses. Microecin in these processes and makes more clear behaviour of the economic agents. Lectures and seminars are designed so that the explanative does not require knowledge of calculus.  Neural Networks 1  Ourse "Neural Networks 1" is to acquaint students with basic models of artificial neural networks, algorithms for their learning, and oth techniques. The goal is to teach students how to apply these models and methods to solve practical tasks.  Neural Networks 2  The goal is to acquaint students with basic models of deep neural networks and teach them how to apply these models at tasks.  Operating Systems Administration  Administration of operating systems Windows and Linux. Users, rights, configuration, command line, networks, firewall  Programming in Java  This course is devoted to the Java platform and to the development of the basic types of applications for this platform.  Programming in MATLAB  environment as efficient tool for computation in complex arrays and symbolic variables, namely for linear algebra, mathematic analys and geometric representation of results.  Programming in Python 1  ces students to advanced features of the Python language and common scientific packages. The course covers both object-oriented as a vowing part of the course describes the use of Python in the fields of scientific and technical computing (NumPy and SciPy packages), date Programming in Python 2  Deduces students to practical applications of the Python language and scientific as well as commercial fields. The course is a seminar what accompanied by a short demo of a real-world application in t	onomics. They a codern principles dents with mode a commics explain on of microecond on of	are models of economic ern knowledgern kno

4.5.51.7.5			T .
18PVP	Programming in Pascal	Z,ZK	4
This lecture is i	ntended mainly for students, with little or no experience in programming. It familiarizes the students with the basic concepts in program	mming and with th	e Pascal
	programming language.		
18PW	Web environment and markup languages	KZ	2
The course intr	oduces students to fundamental principles and best practices for web design with respect to technical functionality, informational valu	e, readability and	usability.
18SBAK	Bachelor Seminar	Z	2
	Seminar devoted to preparation of the bachelor's thesis and the presentation of the result. Students present their running result.	ults.	
18SVK	Student's Scientific Conference	Z	1
This	is the active participation of the student in one of the approved student conferences. The list of such conferences is defined by the co	ourse guarantor.	'
18UDB	Introduction to Databases	Z	2
This course is an ir	troduction to relational database systems. Students will learn basic concepts and how to design a relational database. Students will b	be able to work wit	h data using
	SQL. Credit is awarded for the seminar work (ERA model of relational database and its implementation in SQL).		
18UOA	Introduction into Object Oriented Architecture	Z,ZK	4
18UQI	Introduction to quantum informatics	Z	3
Quantum informat	ion has been on the rise for years. In this course, we explore the basics of quantum information theory with a strong emphasis on qua	antum computing.	We discuss
some of the most in	mportant quantum principles that lead to the so called quantum advantage and discuss many important quantum algorithms with the	requisite amount o	of theoretical
	underpinning.		
18ZALG	Basics of Algorithmization	Z,ZK	4
This course is	devoted to selected algorithms and methods for algorithm design. This course intruduces selected methods for the determination of	the algorithm com	plexity.
18ZPRO	Basics of Programming	Z	4
This course is i	ntended mainly for students with little or no experience in programming. It familiarizes the students with the basic concepts in prograr	nming and with the	e Python
	programming language.		
TV-1	Physical Education	Z	1
TV-2	Physical Education	Z	1
TV-3	Physical education	Z	1
TV-4	Physical education	Z	1
	•		

For updated information see <a href="http://bilakniha.cvut.cz/en/FF.html">http://bilakniha.cvut.cz/en/FF.html</a> Generated: day 2025-06-01, time 11:29.