## Study plan

## Name of study plan: 11 68 73 00 BTZI 2012 K základ

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch: Program of study: Welcome page Type of study: unknown combined

Required credits: 217 Elective courses credits: 0 Sum of credits in the plan: 217 Note on the plan: druhý pokus

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 207

The role of the block: P

Code of the group: 12B-KMENK TZI STR

Name of the group: 01 2012 souhrn skupin 12B\*KiP-KMEN pro i od 1 do 6 Requirement credits in the group: In this group you have to gain 156 credits Requirement courses in the group: In this group you have to complete 37 courses

Credits in the group: 156

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
2371047	Automatic Control	Z,ZK	5	3P+15C+05L	*	Р
2182019	Chemistry Radek Šulc, Martin Dostál, Vojtěch Bělohlav, Jan Skočilas, Adam Krupica, Filip Randák Radek Šulc Radek Šulc (Gar.)	KZ	3	2P+1C	1	Р
2131512	Machine Elements and Mechanisms I. František Lopot	Z,ZK	6	3P+2C	*	Р
2131026	Machine Elements and Mechanisms II František Lopot	ZK	3	3P+0C	*	Р
2141504	Electric Circuits and Electronics Stanislava Papežová, Jan Chyský, Jaroslav Novák, Lukáš Novák <b>Zuzana</b> Sedlecká Jan Chyský (Gar.)	Z,ZK	4	2P+08C+14L	*	Р
2141505	Electrical machines and drives  Jaroslav Novák	Z,ZK	4	2P+06C+14L	*	Р
2021041	Physics I.	Z,ZK	7	4P+1L	*	Р
2021025	Physics II.	Z,ZK	4	1P+2L	3	Р
2133025	Design František Lopot	Z	4	0P+4C	*	Р
2011021	Constructive Geometry	Z,ZK	6	3P+2C	*	Р
2381054	Management and Economics of the Enterprise	Z,ZK	4	2P+2C	*	Р
2011056	Mathematics I Radka Keslerová, Marta Hlavová, Jiří Holman, Gejza Dohnal, Marta Čertíková, Vladimír Hric, Nikola Pajerová, Petr Louda, Lukáš Hájek, Radka Keslerová Gejza Dohnal (Gar.)	Z,ZK	8	4P+4C	*	Р
2011062	Matematika II. Radka Keslerová	Z,ZK	8	4P+4C	*	Р
2011009	Mathematics III Stanislav Kračmar	Z,ZK	5	2P+2C	*	Р
2311101	Mechanics I. Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Nečas, Zdeněk Neusser, Jan Pelikán, Pavel Steinbauer, Zbyněk Šika, Zbyněk Šika Zbyněk Šika (Gar.)	Z,ZK	4	2P+2C	*	Р
2311102	Mechanics II. Václav Bauma	Z,ZK	4	2P+2C	*	Р

2322029	Materials Science I.  Jana Sobotová	KZ	3	2P+1L	2	Р
2321039	Materials Science II.  Jiří Cejp, Jakub Horník, Jana Sobotová, Elena Čižmárová, Eliška Galčíková, Pavlína Hájková, Jakub Horváth, Stanislav Krum, Vladimír Mára, Jana Sobotová Jana Sobotová (Gar.)	Z,ZK	4	2P+2L	*	Р
2011049	Numerical Mathematics Petr Sváček	Z,ZK	4	2P+2C	4	Р
2012037	Computer Graphics	KZ	3	1P+1C	*	Р
2372041	Computer Support for Study Vladimír Hlaváč	KZ	3	1P+1C	*	Р
2181026	Momentum, Mass and Heat Transfer	Z,ZK	5	3P+1C	*	Р
2131002	Engineering Design II	Z,ZK	4	2P+3C	2	Р
2133013	Engineering Design III. Štěpán Tichý, Jan Hoidekr, Jan Kanaval, František Lopot, David Skalický, Roman Uhlíř <b>Jan Kanaval</b> Jan Kanaval (Gar.)	Z	2	0P+2C	Z	Р
2133014	Engineering Design IV. František Lopot	Z	2	0P+2C	L	Р
2372083	Measurement in Engineering  Martin Novák, Vladimír Hlaváč Martin Novák Martin Novák (Gar.)	KZ	3	1P+0C+2L	*	Р
K331068	Technology I	Z,ZK	5	16B	*	Р
K341014	Technology II.	Z,ZK	5	8KP+8KC	*	Р
2012035	Algorithmization and Programming Fundamentals  Petr Sváček	KZ	4	1P+2C	*	Р
2153005	Fundamentals of Energy Conversions	Z	1	1P+1C	*	Р
2383001	Fundamentals of Law	Z	2	1P+1C	*	Р
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Automatic controllers are like transfer functions, opinia programmable logic of MATLAB software as a controller and price and	Automatic Control e important part of many industrial processes. The goal of this course is to introduce studer pen versus closed loop control, design of controllers and frequency based analysis of control controllers. Some seminaries are arranged in laboratories where practical skills and control common platform of control engineers.  Chemistry the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical individual solution of remaining 1/3 is devoted to organic chemistry (hy ital properties measurement.  Machine Elements and Mechanisms I.  Ints (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with us or drives). Seminars are devoted to practical individual solution of simple design projects - tay joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine Elements and Mechanisms II  Ign calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connect Electric Circuits and Electronics  of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient stanics. Principle and typical parameters of basic semiconductor components. Application in electrical circuits. Principle of analogue and digital signal processing. Logical circuits, convert Electrical machines and drives  I power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hy erating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions, construction, starting, services and processing conditions, construction, starting, services and processing condi	nts into basic knot a systems. The corengineering me the course (struct drocarbons, poly e of feathers, pin asks with motion hine elements and tess in circuits with the core circuits ers, microprocess as Rigid body. Corrent, conductivit	owledge of ourse also thods are formers) and s, tenons, screws, production of crank media accumulative of the continuum, s, resistant, y, resistant	automatic conconcentrates of trained. Studer Irained. Irained	,ZK   trol theory a ton logic confines begin to the segin	5 and practice rol and cont work with  3 adynamics, practice is  6 transmissio clamped, indispensat  3 air accessori  4 and Energy perational  4 constructior tic, speed e instrumen  7 s. Oscillatior uctors,
Automatic controllers are like transfer functions, opvia programmable logic of MATLAB software as a controller and programmable logic of MATLAB software as a controller and programmable logic of MATLAB software as a controller and programmable logic of MATLAB software as a controller and programmable pr	Automatic Control e important part of many industrial processes. The goal of this course is to introduce studer pen versus closed loop control, design of controllers and frequency based analysis of contro controllers. Some seminaries are arranged in laboratories where practical skills and control common platform of control engineers.  Chemistry the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the point of view of mechanical properties measurement.  Machine Elements and Mechanisms I.  In standard process are devoted to practical individual solution of simple design projects - to provide the process of electrical circuits and process are devoted to practical individual solution of simple design projects - to provide the process of electrical circuits. Sketching of machines are devoted to practical individual solution of simple design projects - to provide the provide and provide	nts into basic knot a systems. The corengineering me the course (struct drocarbons, poly e of feathers, pin asks with motion hine elements and tess in circuits with the core circuits ers, microprocess as Rigid body. Corrent, conductivit	owledge of ourse also thods are formers) and s, tenons, screws, production of crank media accumulative of the continuum, s, resistant, y, resistant	automatic conconcentrates of trained. Studer Irained. Irained	,ZK   trol theory a ton logic confines begin to the segin	5 and practice rol and cont work with  3 adynamics, practice is  6 transmissio clamped, indispensat  3 air accessori  4 and Energy perational  4 constructior tic, speed e instrumen  7 s. Oscillatior uctors,

of radiation with matter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and periodic system of elements. Spectra, x-rays, ;laser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 experiments related to the lectures.

Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and clutches.

The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.

4

6

Z,ZK

2133025

2011021

Design

Constructive Geometry

2381054	Management and Economics of the Enterprise	Z,ZK	4
The subject is intended	to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reason	ning and to help t	hem understand
•	between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audio		
_	inizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing	=	=
	er reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve		-
	ill learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project mar n the applications of multi-criteria decision-making. The basics of marketing and strategic management will be introduced.	agement. For dec	ision-making
2011056	Mathematics I	Z,ZK	8
	mphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and connec	,	_
_	procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic area		-
_	nomial, integral as a limit function, integration of some special functions.	· ·	J
2011062	Matematika II.	Z,ZK	8
Open and closed set, b	oundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differe		(divergence)
and curl (rotation). Func	tion given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integ	al, Fubini theoren	n. Transformation
	indrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gr		
=	a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vec	ctor field through a	a surface. The
Gauss-Ostrogradskij th		7.71/	
2011009	Mathematics III	Z,ZK	5
-	in ordinary differential equation and infinite series.	7.71/	4
2311101	Mechanics I.	Z,ZK	4
	the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their re methods of description of position and motion of particles and rigid bodies.	Systems with and	i without metion.
2311102	Mechanics II.	Z.ZK	4
	of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar motio	,	•
· ·	Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and v	-	
· ·	ory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms.		
2322029	Materials Science I.	KZ	3
	te of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, def		_
fracture of materials, st	ructure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, in	on-carbon phase	diagram.
2321039	Materials Science II.	Z,ZK	4
Fundamentals of metal	lurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal an	d thermo-mechar	ical processing,
technical iron-carbon al	loys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materials.		
2011049	Numerical Mathematics	Z,ZK	4
_	stems of linear equations, iterative methods. Numerical solution of nonlinear algebraic equations. Least squares method. Numer	ical solution of ord	linary differential
	bundary value problems. Numerical solution of basic linear partial differential equations by finite difference method.		
2012037	Computer Graphics	KZ	3
2372041	Computer Support for Study	KZ	3
	students into creating technical and professional documents on computers or Web and into realizing technical computations w		
	preating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical		
2181026	Momentum, Mass and Heat Transfer ort phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanic	Z,ZK	5 n Booidenso
	tinuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and	٠, .	
	by molecular diffusion, convection, with chemical reactions and interphase mass transfer.	inermanadiation.	Manacomponent
2131002	Engineering Design II	Z,ZK	4
	Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surfa		-
	rancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the		
2133013	Engineering Design III.	Z	2
Design of assembly uni	t (draft drawing, detail drawing, assembly drawing, technical report)	'	
2133014	Engineering Design IV.	Z	2
2372083	Measurement in Engineering	KZ	3
	ciples for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and		asurement
instruments.			
K331068	Technology I	Z,ZK	5
Foundry properties of m	etals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of f	orming processes	. Semi-products,
heating-up. Cutting. Col	d and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brasing. Surface treatment.		
K341014	Technology II.	Z,ZK	5
2012035	Algorithmization and Programming Fundamentals	KZ	4
	AB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Ma		•
	and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Sy		
	e of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. S	_	
	num, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of		-
2153005	Fundamentals of Energy Conversions	Z	1
2383001	Fundamentals of Law	Z	2
_	al system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to pro es of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It i		_
oraci, particular soulde		· ·	
our legal institutions, the	at will be regularly in touch with, especially during their professional career and to learn how to work with the collection of law	s. At the same fin	ne the course

Code of the group: 12BT\*\*P-ALFA

Name of the group: 02 2012 ALFA povinné pro TZI

to prepare professional presentations and to understand basic structures between law and engineering

leads students to know some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relationships and to make them ready

Requirement credits in the group: In this group you have to gain 38 credits

Requirement courses in the group: In this group you have to complete 14 courses

Credits in the group: 38

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
202A041	Physics I.	ZK	3	0P+0L	*	Р
202A025	Physics II.A	ZK	2	0P+0C	*	Р
201A021	Constructive Geometry A	ZK	3	0P+0C	*	Р
201A056	Mathematics I.A Radka Keslerová	ZK	4	0P+0C	*	Р
201A062	Mathematics II.A Radka Keslerová	ZK	4	0P+0C	*	Р
201A009	Mathematics III.A Stanislav Kračmar	ZK	2	0P+0C	*	Р
201A049	Numerical Mathematics A  Luděk Beneš	ZK	2	0P+0C	*	Р

	Zudok Zolico		
Characteristics	of the courses of this group of Study Plan: Code=12BT**P-ALFA Name=02 2012 ALFA povi	inné pro TZI	
202A041	Physics I.	ZK	3
Kinematics and dynar	nics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, ela:	stic properties of boo	lies. Oscillations,
waves. Fluid mechani	cs. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance.	Conductors, semico	nductors,
insulators. Magnetic f	eld. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and	indirect measureme	nts, regression,
measurements of 11	various experiments related to the lectures.		
202A025	Physics II.A	ZK	2
Faraday's law of elect	omagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties	of electromagnetic v	vaves. Interaction
of radiation with matte	er. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen aton	n and periodic syster	m of elements.
Spectra, x-rays, ;lase	: Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of	3 experiments relate	d to the lectures.
201A021	Constructive Geometry A	ZK	3
The subject is focuse	on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.	·	'
201A056	Mathematics I.A	ZK	4
Introduction to linear	algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable		'
201A062	Mathematics II.A	ZK	4
Open and closed set,	boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Diff	erential operators di	v (divergence)
and curl (rotation). Fur	nction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) int	egral, Fubini theorer	n. Transformation
of integrals to polar, of	ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and	Green's theorem. A	potential vector
field, independence of	f a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a	vector field through	a surface. The
Gauss-Ostrogradskij	theorem.		
	Mathematics III.A	ZK	2
201A009	Mathematics III.A		_

Code of the group: 12B\*K\*P-ZT12

Name of the group: 04 2012 kombinované ZT v pořadí 12

Requirement credits in the group: In this group you have to gain 6 credits

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

Credits in the group: 6 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
K333038	Fundamentals of Technology I.	Z	3	8B	*	Р

### Characteristics of the courses of this group of Study Plan: Code=12B\*K\*P-ZT12 Name=04 2012 kombinované ZT v pořadí 12

K333038 Fundamentals of Technology I. Production processes in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technical metals. Production of pig iron and steel. Casting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Hot and cold forging. Free and drop forging. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding. Fusion welding: Flame

Code of the group: 12BT\*5P-ME3

welding and arc welding with coated electrodes. Thermal cutting.

Name of the group: 09 2012 ME3 pro TZI

Requirement credits in the group: In this group you have to gain 7 credits

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

Credits in the group: 7 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
2311107	Mechanics III. Tomáš Vampola	Z,ZK	7	2P+3C	5	Р

Characteristics of the courses of this group of Study Plan: Code=12BT\*5P-ME3 Name=09 2012 ME3 pro TZI

2311107 | Mechanics III. | Z,ZK | 7

Mechanics III deals with the basic concepts of dynamics. Methods of solving the dynamics of mass particle and body motion and their systems are described. Methods for describing

Mechanics III deals with the basic concepts of dynamics. Methods of solving the dynamics of mass particle and body motion and their systems are described. Methods for describing and solving vibrations of systems.

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 10

The role of the block: PV

Code of the group: 12B\*\*1Q-HUM

Name of the group: 03 2012 bakalářské povinně volitelné humanitární

Requirement credits in the group: In this group you have to gain at least 2 credits (at most 6)

Requirement courses in the group: In this group you have to complete at least 1 course (at most 3)

Credits in the group: 2

Note on the group:

Ze skupiny humanitních předmětů nutno j e d e n absolvovat

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
2383009	Communication and Dealing with People  Jan Horeic Jan Horeic (Gar.)	Z	2	1P+1C	*	PV

#### Characteristics of the courses of this group of Study Plan: Code=12B\*\*1Q-HUM Name=03 2012 bakalářské povinně volitelné humanitární

2383009 Communication and Dealing with People Z 2

Human communication represents an irreplaceable phenomenon in human activity, as it is present in practically all of his activities. The same applies (with specific modifications) to the activities of managers. So you can't not communicate - you can only communicate badly, well and excellently.

Code of the group: 12B\*\*4Q-BZJ S+T

Name of the group: 08 2012 bakalářské zkoušky z jazyků pro STR a TZIS

Requirement credits in the group: In this group you have to gain at least 2 credits (at most 10)

Requirement courses in the group: In this group you have to complete at least 1 course (at most 5)

Credits in the group: 2

Note on the group:

Součástí tohoto bakalářského studijního programu je povinnost vykonat zkoušku z jednoho cizího jazyka. Student ji může vykonat kdykoliv v průběhu studia. Administrativně je předmět přiřazen ke studijnímu plánu čtvrtého semestru druhého ročníku, neboť se předpokládá, že si student během předcházejících semestrů nejprve doplňuje v jazykových kurzech (volitelných předmětech) jazykové znalosti zejména v

oblasti odborné terminologie Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their Code Completion Credits Scope Semester Role members) Tutors, authors and guarantors (gar.) **English-Bachelor Exam** 0P+2C 2041061 2 Z,ZK Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, PV Michele Le Blanc Ilona Šimice (Gar.) French - Bachelor Exam /FME 2041063 0P+2C Z,ZK 2 Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.) German - Bachelor Exam / FME 2041062 2 0P+2C Z,ZK ΡV Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.) Russian - Bachelor Exam / FME 2041065 Z.ZK 0P+2C ΡV Hana Volejníková, Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.) Spanish - Bachelor Exam / FME 2041064 Z,ZK 0P+2C PV Jaime Andrés Villagómez Eliška Vítková Jaime Andrés Villagómez (Gar.)

Characteristics of the courses of this group of Study Plan: Code=12B\*\*4Q-BZJ S+T Name=08 2012 bakalářské zkoušky z jazyků pro STR a TZIS

2041061	English-Bachelor Exam	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pai	rt in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041063	French - Bachelor Exam /FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pai	rt in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041062	German - Bachelor Exam / FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pai	rt in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041065	Russian - Bachelor Exam / FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pai	rt in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041064	Spanish - Bachelor Exam / FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pai	rt in discussions,
to write a summary a	report and an essay to read technical texts, to master grammar at advanced level		

Code of the group: 12BT\*6Q-OP

Name of the group: 10 2012 BTZI 6. sem oborové projekty

Requirement credits in the group: In this group you have to gain 2 credits

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

Credits in the group: 2 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
2012091	Project	KZ	2	0P+2C	*	PV
2152091	Deparmental Project	KZ	2	0P+2C	*	PV
2182091	Project	KZ	2	0P+2C	*	PV
2322091	Project Jana Sobotová	KZ	2	0P+2C	*	PV
2332091	Project	KZ	2	0P+2C	*	PV
2342091	Project	KZ	2	0P+2C	*	PV
2352091	Specialization Project	KZ	2	0P+2C+0L	*	PV
2362091	Project	KZ	2	0P+2C	*	PV
2372091	Project	KZ	2	0P+2C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12BT\*6Q-OP Name=10 2012 BTZI 6. sem oborové projekty

2012091	Project	KZ	2
2152091	Deparmental Project	KZ	2
2182091	Project	KZ	2
Absolvent se sezr	rnámí se základy oboru Procesní technika.	'	•
2322091	Project	KZ	2
knowledge or resu	vulta		
•	nphasis on experimental technologies which can be applied in their bachelor theses. They can al	30 mention a planned experiment of evaluate mitter	to obtained
		1/7	
2332091	Project	KZ	2
	Project Project	KZ KZ	2 2
2332091 2342091	Project Project		2 2
2332091 2342091 Work on specializ	Project Project zed tasks.	KZ	-
2332091 2342091 Work on specializ 2352091	Project Project zed tasks. Specialization Project	KZ KZ	-

Code of the group: 12BT\*6Q-BP

Name of the group: 11 2012 BTZI 6. sem bakalářské práce

Requirement credits in the group: In this group you have to gain 4 credits

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

Credits in the group: 4

Note on the group: poznámka 12BT\*6Q-BP 2012 BTZI 6. sem bakalářské práce

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
2213991	Bachelor Thesis	Z	4	0P+8C	*	PV
2373991	Bachelor Thesis	Z	4	0P+0C	*	PV
2363991	Bachelor Thesis	Z	4	0P+0C	*	PV
2153991	Bachelor Thesis	Z	4	0P+0C	*	PV
2323991	Bachelor thesis	Z	4	0P+6C	*	PV
2183991	Bachelor Thesis	Z	4	0P+0C	*	PV
2333991	Bachelor Thesis	Z	4	0P+0C	*	PV
2013991	Bachelor Thesis	Z	4	0P+0C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12BT\*6Q-BP Name=11 2012 BTZI 6. sem bakalářské práce

2213991	Bachelor Thesis	Z	4
2373991	Bachelor Thesis	Z	4
Each student will solve			
2363991	Bachelor Thesis	Z	4
2153991	Bachelor Thesis	Z	4
2323991	Bachelor thesis	Z	4
Development of the bac	helor thesis on an assignment under the supervision.		
2183991	Bachelor Thesis	Z	4
2333991	Bachelor Thesis	Z	4
2013991	Bachelor Thesis	Z	4

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

The role of the block: V

Code of the group: 12B\*\*1V-DOP SEMI

Name of the group: 05 2012 doporučené semináře

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

Credits in the group: 0

Note on the group: Pokud si chce student své dosud získané znalosti (například z matematiky, fyziky, cizích jazyků

atd.) doplnit, může si zapsat některý z volitelných předmětů, které příslušné ústavy pro 1. semestr

(zimní) vypisují. Doporučujeme zejména předměty uvedené v této skupině

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
2026016	Physics - Seminar	Z	2	0P+2C	1	V
2016007	Mathematics I Seminar Radka Keslerová, Luděk Beneš, Hynek Řezníček, Olga Majlingová Radka Keslerová Gejza Dohnal (Gar.)	Z	2	0P+2C	1	V

Characteristics of the courses of this group of Study Plan: Code=12B\*\*1V-DOP SEMI Name=05 2012 doporučené semináře

0000010			
2026016	Physics - Seminar		2
The subject is mainly n	neant for high-school students for repetition of high-school physics.		
2016007	Mathematics I Seminar	Z	2

Code of the group: 12B\*\*1V-DOP ZJK

Name of the group: 06 2012 doporučené základní jazykové kurzy a prezentace

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)	Completion	Credits	Scope	Semester	Role
	Tutors, authors and guarantors (gar.)  English Conversation	_	_			
2046155	Ilona Šimice, Michele Le Blanc Ilona Šimice Michele Le Blanc (Gar.)	Z	2	0P+2C	*	V
2046156	English Conversation Michele Le Blanc	Z	2	0P+2C	L	٧
2046071	English - Lower Intermediate Veronika Kratochvílová	Z	2	0P+2C	L	٧
2046070	English - Lower Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046074	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michele Le Blanc Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046075	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michele Le Blanc Ilona Šimice Ilona Šimice (Gar.)	Z	2	0P+2C	L	V
2046072	English - Upper Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046073	English - Upper Intermediate Ilona Šimice Ilona Ilon	Z	2	0P+2C	L	٧
2046068	English - Beginners Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046069	English - Beginners Veronika Kratochvílová Ilona Šimice	Z	2	0P+2C	L	٧
2046126	Czech Lower Intermediate  Jaroslava Kommová	Z	2	0P+2C	L	V
2046125	Czech Lower Intermediate	Z	2	0P+2C	Z	V
2046118	Jaroslava Kommová  Czech -Advanced	Z	2	0P+2C	L	V
2046117	Jaroslava Kommová  Czech -Advanced	Z	2	0P+2C	Z	V
2046127	Jaroslava Kommová  Czech - Upper Intermediate	Z	2	0P+2C	Z	V
2046128	Jaroslava Kommová  Czech - Upper Intermediate	Z	2	0P+2C	L	V
2046119	Jaroslava Kommová  Czech Language for Beginners I.	Z	2	0P+2C	Z	V
2046120	Jaroslava Kommová  Czech Language for Beginners II.	Z	2	0P+2C	L	V
	Jaroslava Kommová French - Lower Intermediate Course	_	_		_	•
2046086	Michaela Schusová, Dušana Jirovská <b>Michaela Schusová</b> Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046087	French - Lower Intermediate Course Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	٧
2046091	French - Advanced Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	٧
2046090	French - Advanced Michaela Schusová, Dušana Jirovská, Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	z	V
2046089	French - Upper Intermediate  Dušana Jirovská <b>Dušana Jirovská</b> Dušana Jirovská (Gar.)	Z	2	0P+2C	L	٧
2046088	French - Upper Intermediate  Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046084	French - Beginners Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046085	French - Beginners' Course  Dušana Jirovská Michaela Schusová Dušana Jirovská (Gar.)	Z	2	0P+2C	L	٧
2146060	Indonesian Language Course for Exchange	Z	2	0P+2C	*	V
2146061	Technical Indonesian - Course I.	Z	2	0P+2C	Z	V
2144062	Technical Indonesian - Course II.	Z,ZK	3	1P+2C	L	٧
2046078	German - Lower Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046079	German - Lower Intermediate Course Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046083	German - Advanced Course Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V

2046082	German - Advanced Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046081	German - Upper Intermediate Course  Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava  Kommová (Gar.)	Z	2	0P+2C	L	V
2046080	German - Upper Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046076	German - Beginners Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Petr Laurich (Gar.)	Z	2	0P+2C	Z	V
2046077	German - Beginners Jaroslava Kommová, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	٧
2046161	Presentations in English Michaela Schusová	Z	2	0P+2C	*	V
2046166	Presentations in Czech Jaroslava Kommová	Z	2	0P+2C	*	V
2046162	Presentations in German  Jaroslava Kommová, Eliška Vítková, Petr Laurich <b>Jaroslava Kommová</b> Jaroslava Kommová (Gar.)	Z	2	0P+2C	*	V
2046164	Presentations in Russian Dušana Jirovská	Z	2	0P+2C	*	V
2046163	Presentations in French language Dušana Jirovská <b>Dušana Jirovsk</b> á	Z	2	0P+2C	*	V
2046165	Presentations in Spanish Eliška Vítková	Z	2	0P+2C	*	v
2046137	Russian - Lower Intermediate Course Michaela Schusová, Hana Volejníková, Dušana Jirovská, Eliška Vítková Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046138	Russian - Lower Intermediate Course Hana Volejníková, Dušana Jirovská Dušana Jirovská	Z	2	0P+2C	L	V
2046141	Russian - Advanced Michaela Schusová, Hana Volejníková, Dušana Jirovská, Eliška Vítková Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046142	Russian - Advanced Hana Volejníková, Dušana Jirovská <b>Dušana Jirovská</b>	Z	2	0P+2C	L	V
2046140	Russian - Upper Intermediate Hana Volejníková, Dušana Jirovská <b>Dušana Jirovská</b>	Z	2	0P+2C	L	V
2046139	Russian - Upper Intermediate Michaela Schusová, Hana Volejníková, Dušana Jirovská, Eliška Vítková Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046136	Russian - Beginners Hana Volejníková, Dušana Jirovská <b>Dušana Jirovská</b>	Z	2	0P+2C	L	V
2046135	Russian - Beginners Michaela Schusová, Hana Volejníková, Dušana Jirovská, Eliška Vítková Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046099	Spanish - Lower Intermediate Jaime Andrés Villagómez Eliška Vítková Jaime Andrés Villagómez (Gar.)	Z	2	0P+2C	L	V
2046098	Spanish - Lower Intermediate  Michaela Schusová, Eliška Vítková, Jaime Andrés Villagómez Eliška Vítková  Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046096	Spanish - Beginners Michaela Schusová, Eliška Vítková, Jaime Andrés Villagómez Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046097	Spanish - Beginners Jaime Andrés Villagómez Jaime Andrés Villagómez (Gar.)	Z	2	0P+2C	L	V

Characteristics of the courses of this group of Study Plan: Code=12B\*\*1V-DOP ZJK Name=06 2012 doporučené základní jazykové kurzy a prezentace

kurzy a prezentac	9					
2046155	English Conversation	Z	2			
Improving communication	ve skills in speaking on general topics and general technical topics.					
2046156	English Conversation	Z	2			
Improving communicative skills in speaking on general topics and general technical topics.						
2046071	English - Lower Intermediate	Z	2			
Mapped to the Common	Mapped to the Common European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which a student meets either at school					
or at his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improvem	ent of professiona	al language.			
2046070	English - Lower Intermediate	Z	2			
Aim: Understanding cle	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sir	nple way about			
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language. A1 - A2.					
2046074	English - Advanced	Z	2			
The aim: comprehension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Written and oral skills on advanced						
level. Ability to write a summary, a report, an essay reading and comprehension of popular-scientific and scientific articles or texts from student's field of studies without difficulties.						
Grammar structures on	advanced level. B1 - B2.					

2046075	English - Advanced	7	2				
		<b>∠</b>   English without ar					
	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E	-					
and active participation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.							
2046072	English - Upper Intermediate	Z	2				
	guage skills taking into consideration professional English and common professional terminology. Comprehension of standaro	d English speech a	and conversation				
about topics of everyda	y life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 - B1.						
2046073	English - Upper Intermediate	Z	2				
Mapped to the Common	n European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional En	iglish and commor	n professional				
terminology. Comprehe	nsion of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intern	nediate level. Broa	dening grammar				
knowledge.							
2046068	English - Beginners	Z	2				
	of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p	า professional langu	age). A1				
2046069	English - Beginners	7	2				
	ן בדוקווקוד - Degittiers n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understan	_					
1 ' '	ninology (professional language).	iding and use of be	asic expressions				
2046126	Czech Lower Intermediate	Z	2				
1	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sin	nple way about				
	and comprehension of simple texts. Improvement of professional language.						
2046125	Czech Lower Intermediate	Z	2				
Aim: Understanding cle	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sin	nple way about				
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language.						
2046118	Czech -Advanced	Z	2				
Mapped to the level of 0	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in C	Szech without grea	at difficulties and				
active participation in a	discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehen	sion of popular-sc	cientific and				
1 '	s from student's field of studies without difficulties. Grammar structures on advanced level.						
2046117	Czech -Advanced	Z	2				
	en language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in	. – .					
1 '	write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical a		cooming opinions.				
2046127	Czech - Upper Intermediate	Z	2				
-	d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abili	ity to describe exp	eriences and				
	ne's opinions and plans. Reading and understanding general and technical texts.						
2046128	Czech - Upper Intermediate	Z	2				
Mapped to the Common	n European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professiona	I Czech and comm	non professional				
terminology. Comprehe	nsion of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on inter	mediate level. Bro	adening the				
knowledge technical lar	nguage.						
2046119	Czech Language for Beginners I.	Z	2				
Basic vocabulary of eve	ryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes	sional language)	'				
2046120	Czech Language for Beginners II.	7	2				
	n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understan	_					
	ninology (professional language).	iding and account	aoio expressione				
		Z	2				
2046086	French - Lower Intermediate Course	_					
1	hat is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wr	iting in a simple w	ay about tamiliar				
	mprehension of simple texts. Improvement of professional language.						
2046087	French - Lower Intermediate Course	Z	2				
1 ' '	Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which						
his/her free time and sp	eaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	iguage.				
2046091	French - Advanced	Z	2				
Mapped to the level of 0	Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to	pics familiar to the	student.				
Communication with na	tive speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading ar	nd understanding	texts concerning				
currant issues and popu	ular scientific and technical articles.						
2046090	French - Advanced	Z	2				
	en language as well as lectures in French on topics familiar to the student. Communication with native speakers, participatio	1 1					
	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te		p. 550mig				
		Z	2				
2046089	French - Upper Intermediate	1					
	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students c						
	lking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa						
2046088	French - Upper Intermediate	Z	2				
Understanding standard	d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abili	ity to describe exp	eriences and				
events, briefly explain o	ne's opinions and plans. Reading and understanding general and technical texts.						
2046084	French - Beginners	Z	2				
	what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wr						
	nprehension of simple texts. Improvement of professional language.	•					
2046085	French - Beginners' Course	Z	2				
	r rienion - Degriniers' Course Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which						
	eaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement						
2146060	Indonesian Language Course for Exchange	Z	2				
	nguage for Student Exchange Program to Indonesia						
2146061	Technical Indonesian - Course I.	Z	2				
Second part of Indones	ian Language for Student Exchange Program to Indonesia	<u> </u>					
2144062	Technical Indonesian - Course II.	Z,ZK	3				
	nguage for Student Exchange Program to Indonesia	' '	'				
	<u> </u>						

	German - Lower Intermediate Course	7	_
		Z	2
	early what is spoken about everyday situations which a student meets in the company or in his/her free time and speaking about the company of the state of the st	out them. Writing i	n a simple way
	eading and comprehension of simple texts. Improvement of professional language.	7	
2046079	German - Lower Intermediate Course  Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic	D Z	either at school
* *	and speaking about them. Writing in a simple way about familiar topics, reading and comprehesion of simple texts. Improveme		
2046083	German - Advanced Course	7	2
	German - Advanced Course Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in	- 1	<del>-</del>
• • •	in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compre		•
	ts from student's field of studies without difficulties. Grammar structures on advanced level.	onenenen er pepun	
2046082	German - Advanced Course	Z	2
	ken language as well as lectures in German on topics familiar to the student. Communication with native speakers, participati	-	
	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te		. 0
2046081	German - Upper Intermediate Course	Z	2
	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students of	omes across at w	ork, at school,
	alking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa		
2046080	German - Upper Intermediate Course	Z	2
Understanding standar	d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abili	ty to describe exp	eriences and
events, briefly explain of	one's opinions and plans. Reading and understanding general and technical texts.		
2046076	German - Beginners	Z	2
Basic vocabulary of ev	eryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professions)	sional language) İ	t corresponds to
the Common European	n Framework of Reference for Languages A1.		
2046077	German - Beginners	Z	2
Mapped to the level Co	mmon European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding	and use of basic	expressions of
general scientific termi	nology (professional language).		
2046161	Presentations in English	Z	2
Preparing students to	present in English on technical topics, with a possible co-operation with specialized departments.		
2046166	Presentations in Czech	Z	2
Preparing students to	give presentations in English on technical topics, with a possible co-operation with specialized departments.	'	
2046162	Presentations in German	Z	2
Preparation for present	ing technical topics in German, possibly in cooperation with specialized departments.	'	
2046164	Presentations in Russian	Z	2
Preparation for present	ling technical topics in Russian, possibly in cooperation with specialized departments.	'	
2046163	Presentations in French language	Z	2
Preparation for present	ting technical topics in French, possibly in cooperation with specialized departments.	'	
2046165	Presentations in Spanish	7	
2040103	i resentations in Spanish	Z	2
	ting technical topics in Spanish, possibly in cooperation with specialized departments.	Z	2
	·	Z	2
Preparation for present 2046137	ing technical topics in Spanish, possibly in cooperation with specialized departments.	Z	2
Preparation for present 2046137 Understanding clearly topics. Reading and co	ring technical topics in Spanish, possibly in cooperation with specialized departments.  Russian - Lower Intermediate Course	Z iting in a simple w	2
Preparation for present 2046137 Understanding clearly	ing technical topics in Spanish, possibly in cooperation with specialized departments.  Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing technical topics in the speaking about them.	Z	2
Preparation for present 2046137 Understanding clearly topics. Reading and co 2046138 Mapped to the level of	Ing technical topics in Spanish, possibly in cooperation with specialized departments.  Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language.  Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a student and the standard course are spoken about everyday situations which a student course are spoken about everyday situations are spoken abo	Z iting in a simple w	2 ay about familian 2
Preparation for present 2046137 Understanding clearly topics. Reading and co 2046138 Mapped to the level of	Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language.  Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a stuabout them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profes	Z iting in a simple w	2 ay about familian 2 nool or in his/her
Preparation for present 2046137 Understanding clearly topics. Reading and co 2046138 Mapped to the level of free time and speaking 2046141	Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language.  Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a stuabout them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional Russian - Advanced	Z iting in a simple with the s	2 ay about familian 2 nool or in his/her 2
Preparation for present 2046137 Understanding clearly topics. Reading and co 2046138 Mapped to the level of free time and speaking 2046141 Comprehension of spo	Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language.  Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a stuabout them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profesional language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participation	Z  iting in a simple was a school language.  Z  on in discussions.	2 ay about familian 2 nool or in his/her 2
Preparation for present 2046137 Understanding clearly topics. Reading and co 2046138 Mapped to the level of free time and speaking 2046141 Comprehension of spo opinions. Written skills.	Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language.  Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a stuabout them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profest Russian - Advanced ken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participatic Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and texts.	Z  Iting in a simple was at scheme to the second language.  Z  on in discussions. echnical articles.	2 ay about familian 2 nool or in his/her 2 Expressing
Preparation for present 2046137 Understanding clearly topics. Reading and co 2046138 Mapped to the level of free time and speaking 2046141 Comprehension of spo opinions. Written skills. 2046142	Russian - Lower Intermediate Course what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language.  Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a stuabout them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profest Russian - Advanced ken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participatification with the student and popular scientific and texts.  Russian - Advanced	Z  iting in a simple was at scheme to the second language.  Z  on in discussions. echnical articles.  Z	2 ay about familian 2 nool or in his/her 2 Expressing
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2046097 Spanish - Beginners Z 2
Mapped to the Common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in

his/her free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.

# List of courses of this pass:

Code	Name of the course	Completion	Credits
2011009	Mathematics III  An introductory course in ordinary differential equation and infinite series.	Z,ZK	5
2011021	Constructive Geometry  The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relati	Z,ZK ons.	6
2011049	Numerical Mathematics	Z,ZK	4
Numerical solution	of systems of linear equations, iterative methods. Numerical solution of nonlinear algebraic equations. Least squares method. Numerica equations, initial and boundary value problems. Numerical solution of basic linear partial differential equations by finite difference		y differential
2011056	Mathematics I	Z,ZK	8
In the course, great	ter emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and connection	ns between concep	ts. Students
will also get to know	the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic areas: of a matrix, Taylor polynomial, integral as a limit function, integration of some special functions.	eigennumbers and e	eigenvectors
2011062	Matematika II.	Z,ZK	8
	set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differen		_
	Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,		
	r, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree		
	be of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector		
	Gauss-Ostrogradskij theorem.		
2012035	Algorithmization and Programming Fundamentals	KZ	4
Programming in I	MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Mat	ices, vectors and o	perations.
Writting M-script. In	put and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Syste	ems of linear equat	ions. Scripts
	ructure of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. S	_	
	s: minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of	1	·
2012037	Computer Graphics	KZ	3
2012091	Project	KZ	2
2013991	Bachelor Thesis	Z	4
2016007	Mathematics I Seminar	Z	2
201A009	Mathematics III.A	ZK	2
201A021	Constructive Geometry A	ZK	3
	The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relati		
201A049	Numerical Mathematics A	ZK	2
201A056	Mathematics I.A	ZK	4
	Introduction to linear algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable		
201A062	Mathematics II.A	ZK	4
-	set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differen		
, ,	Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,		
	r, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree	· · · · · · · · · · · · · · · · · · ·	
neia, maepenaena	ce of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vect Gauss-Ostrogradskij theorem.	or neid infought a si	unace. me
2021025	Physics II.	Z,ZK	4
	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of ele		-
	natter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and		
Spectra, x-rays, ;las	ser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 expe	eriments related to	the lectures.
2021041	Physics I.	Z,ZK	7
Kinematics and dyr	namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic pr	operties of bodies.	Oscillations,
waves. Fluid me	echanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	onductors, semicon	ductors,
insulators. Magnet	ic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire	ect measurements,	regression,
	measurements of 11 various experiments related to the lectures.		ı
2026016	Physics - Seminar  The subject is mainly meant for high-school students for repetition of high-school physics.	Z	2
202A025	Physics II.A	ZK	2
	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of ele	1	
of radiation with m	natter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and	periodic system o	f elements.
Spectra, x-rays, ;las	ser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 expenses.	eriments related to	the lectures.
202A041	Physics I.	ZK	3
-	namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic properties. Temporature and heat transfer Kingtic theory of gages. The modynamics. Electric field, current, conductivity, resistance.	-	
	echanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co ic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire		
ouidioi 3. Magneti	measurements of 11 various experiments related to the lectures.		

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2041061 Mapped to the Com	English-Bachelor Exam Imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	Z,ZK ies, to take part in c	2 discussions,
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2041062 Mapped to the Com	German - Bachelor Exam / FME  Imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult  to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	Z,ZK ies, to take part in c	2 discussions,
2041063	French - Bachelor Exam /FME	Z,ZK	2
	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult		
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2041064	Spanish - Bachelor Exam / FME	Z,ZK	2
Mapped to the Com	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	ies, to take part in c	discussions,
2041065	Russian - Bachelor Exam / FME	Z,ZK	2
	imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2046068	English - Beginners	Z	2
Aim: Basic voc	abulary of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p	rofessional langua	ge). A1
2046069	English - Beginners	Z	2
Mapped to the Con	nmon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language).	and use of basic of	expressions
2046070	English - Lower Intermediate	Z	2
Aim: Understandin	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. A1 - A2.	Writing in a simple	way about
2046071	English - Lower Intermediate	Z	2
	mmon European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which a s		
	time and speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improveme	T or professional is	anguage.
2046072 The aim is to extend	English - Upper Intermediate d language skills taking into consideration professional English and common professional terminology. Comprehension of standard En		
	about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 -		
2046073	English - Upper Intermediate	Z	2
	mmon European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional English		
terminology. Compi	rehension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intermedia	ate level. Broadenir	ng grammar
2046074	knowledge.  English - Advanced	Z	2
	nension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Writter		
•	ite a summary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's field		
	Grammar structures on advanced level. B1 - B2.		
2046075	English - Advanced	Z	2
	ommon European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in Enq ation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and compreher	-	
and delive particip	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	ision of popular so	icritino aria
2046076	German - Beginners	Z	2
Basic vocabulary o	f everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profession	al language) It cori	responds to
	the Common European Framework of Reference for Languages A1.		
2046077	German - Beginners el Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an	Z	2
wapped to the lev	general scientific terminology (professional language).	u use oi basic expi	62210112 01
2046078	German - Lower Intermediate Course	Z	2
	g clearly what is spoken about everyday situations which a student meets in the company or in his/her free time and speaking about	them. Writing in a	
	about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		
2046079	German - Lower Intermediate Course	Z	2
* *	l of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvemer		
2046080	German - Upper Intermediate Course	Z	2
	andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability		
· ·	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	•	
2046081	German - Upper Intermediate Course	Z	2
	rel of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students com		
-	nd talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understanding		
2046082	German - Advanced Course  of spoken language as well as lectures in German on topics familiar to the student. Communication with native speakers, participation	Z   Tin discussions Fr	2 xpressing
	or spoker language as well as rectures in German on topics lamiliar to the student. Communication with halive speakers, participation Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a		
2046083	German - Advanced Course	Z	2
	el of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in Ge	1	
and active participa	ation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compreher scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	nsion of popular-sc	cientific and
2046084	French - Beginners	Z	2
Understanding clea	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	in a simple way ab	out familiar
	topics. Reading and comprehension of simple texts. Improvement of professional language.		

2046085	French - Beginners' Course	Z	2
	el of Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which a e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2046086	French - Lower Intermediate Course	Z	2
Understanding clear	ly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing topics. Reading and comprehension of simple texts. Improvement of professional language.	j in a simple way al	bout familiar
2046087	French - Lower Intermediate Course	Z	2
	el of Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which a		
	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	
2046088	French - Upper Intermediate  ndard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	to describe experi	2
-	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.		
2046089	French - Upper Intermediate	Z	2
	el of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students com d talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understandin		
2046090	French - Advanced	7	2
	of spoken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participation	in discussions. Ex	
	ritten skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a		
2046091	French - Advanced	Z	2
Mapped to the le	evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to	pics familiar to the	student.
Communication with	native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and u	nderstanding texts	concerning
	currant issues and popular scientific and technical articles.		
2046096	Spanish - Beginners	Z	2
Aim:Understanding	clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	writing in a simple	way about
2046097	Spanish - Beginners	7	2
	mmon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a s		I
	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2046098	Spanish - Lower Intermediate		2
	ly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	j in a simple way a	_
	topics. Reading and comprehension of simple texts. Improvement of professional language.		
2046099	Spanish - Lower Intermediate	Z	2
Mapped to the level	of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a students	it meets at school	or in his/her
	d speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of p		
2046117	Czech -Advanced	Z	2
	poken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in dis-	•	ng opinions.
2046118	n skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced	7	2
	of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czec	<b>∠</b> ch without great dif	_
	in in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens	•	
	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.		
2046119	Czech Language for Beginners I.	Z	2
Basic vocal	bulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	rofessional langua	ge)
2046120	Czech Language for Beginners II.	Z	2
Mapped to the Com	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding	g and use of basic	expressions
0040405	of general scientific terminology (professional language).	7	
2046125	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	2 way about
7 tim. Ondorotanding	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	virtuing in a oimple	way about
2046126	Czech Lower Intermediate	Z	2
	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	way about
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		
2046127	Czech - Upper Intermediate	Z	2
Understanding star	ndard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	to describe experi	ences and
00.404.00	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.		
2046128	Czech - Upper Intermediate mon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz	Z	2
	prehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on interm	-	
torriiriology. Comp	knowledge technical language.	Todiato Tovol. Broad	ioning the
2046135	Russian - Beginners	Z	2
Basic vocab	oulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	rofessional langua	ge)
2046136	Russian - Beginners	Z	2
Mapped to the level	of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanding	and use of basic e	expressions
	of general scientific terminology (professional language)		1
2046137	Russian - Lower Intermediate Course	Z	2
Understanding clear	ly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	ı in a simple way al	bout familiar
0040400	topics. Reading and comprehension of simple texts. Improvement of professional language.		
2046138	Russian - Lower Intermediate Course	Z	2 or in hig/hor
froe time an	of Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a studer		or in his/her

Universal part and part and part and part and the adjusted meets at work, at short, during feel time, and taking about three block. Allayly describe experiences and events, brilly expain one to common and plants. Reciting and understanding general and training around the state of the part of t	2046139	Russian - Upper Intermediate	Z	2
Appeled to the toel of Common European Framework of Inference A 2 et Understanding standard speed about familiar matters that a student meets at voick. Curing these these, and stalling about these topics. As lifty to describe segreences and works. Driefly explain one spinners and panels. Reading and understanding general and technical tools. 2046114.  Comprehension of govern language as well as bectures in Russian - Advanced Opposite the National Appele and the Secretary of the		· ·	to describe experi	ences and
Mapped to the level of Common European Framework of effectioners. Az - 81 Understanding standard speach about familiar matters that a student moves at twosk, at a track) current terms, and takeing better through the control and protections of processing to the control of protection of protections of processing the protection of protections of prot		events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.		
ties the na. of salary about have spote. Ashly to describe experience and events, briefly explain on a spotiation and plants. Reading and unperlaineding general and technical social components of plants and plants. Advanced Commencement of spotiation (see the plants of the plants) and the plants of the plants	2046140	Russian - Upper Intermediate	Z	2
2046141   Comprehension of solone injurgage as well as lectures in Russian - Advanced Comprehension of solone injurgage as well as lectures in Russian on topics training to the authority of the comprehension of solone injurgage as well as lectures in Russian on topics training to the solone of Common European Framework of Información (1988)   Comprehension of solone Injurgage as well as lectures in Russian on topics affailled to the solone of Common European Framework of Información (1988)   Common European Información (1988)	Mapped to the le	vel of Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a student me	ets at work, at sch	ool, during
Comprehension of specian imageage as well as bedures in Russian on highes familian to the dutant. Communication with make pathors, proteings already and produce controller control and account of the product of the production and the production of	free time, and talki	ng about these topics. Ability to describe experiences and events, briefly explain one's opinions and plans. Reading and understandi	ng general and tec	hnical texts.
opinions. Written skills. Ability to write an essay or a report. Reading and understanding losts concerning currant sleaves and popular identified and technical studies.   2 046165   Registro from the property of the level of Common European Frommonch of reference (8 ± 18.2 Componentesion of spoken language, as well as lectures in Russian on largest familiar to the substant.   2 046165   Registro from the property of the level of Common European Frommonch of reference (8 ± 18.2 Componentesion of spoken language as well as lectures in Russian on largest substant.   2 046165   Registro from the property of the prope	2046141	Russian - Advanced	Z	2
Advanced   Z   2	Comprehension	of spoken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participation	n in discussions. E	xpressing
Mispado to the level of Common European Famework of reference: B1 - 82 Comprehension of spoken language as well as between in Russian on topics familiar to the outbest. Communication with native speakers, participation in discussions. Expressing opinions. Within easily Analy to with an easily or a report. Reading and understanding tests concerning current issues and popular scientific and technical direction.  2046156	opinions.	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific	and technical article	es.
Communication with native speakers, participation in discussions. Expressing opinions. Written sells Ability to write an essay or a report. Reading and understanding tests concerning caretal testerants assessed and popular scientific and behindal articles.  2046156	2046142	Russian - Advanced	Z	2
2046155   English Conversation   Z   2   2   2   2   2   2   2   2   2	Mapped to the I	evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian on to	opics familiar to the	student.
2046155   English Corversation   Fundamental Content of the Cont	Communication wi		ınderstanding texts	concerning
Decision		currant issues and popular scientific and technical articles.		
English Conversation   Fresentations in English   Presentations in German   Presentations in French language   Preparation for presenting technical topics in German   Presentations in German   Presentations in French language   Preparation for presenting technical topics in French parablely in cooperation with specialized departments.   Presentations in French language   Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.   Presentations in French language   Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.   Preparation for presenting technical topics in Spanish in a possible co-operation with specialized departments.   Preparation for presenting technical spanish in the present in the prese	2046155	English Conversation	Z	2
Description   Preparation   Preparation   Preparation   Presentations in English   Preparation   P		Improving communicative skills in speaking on general topics and general technical topics.		
2   2   2   2   2   2   2   2   2   2	2046156	English Conversation	Z	2
Perparting students to present in Emplish on technical topics, with a possible co-operation with specialized departments.     2   2		Improving communicative skills in speaking on general topics and general technical topics.		
Prespuration for presenting technical topics in German   Z   2	2046161	Presentations in English	Z	2
Preparation for presenting technical topics in German, possibly in cooperation with specialized departments.  2 2 2 Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.  2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Preparing students to present in English on technical topics, with a possible co-operation with specialized departments.		
Preparation for presenting technical topics in French, basily in cooperation with specialized departments.  2	2046162	Presentations in German	Z	2
Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.  2 2046165   Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.  2 2046166   Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.  2 2046166   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2131002   Preparation for presentations in Cacch Presentations in Cacch Preparating students to give presentations in Cacch Preparating Design II Propingles of ISO GPS (Geometrical Products Specification), Students witing of cricial knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, dimensional loops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice their knowledge from lectures.  2 131026   Machine Elements and Mechanisms II ZK 3  2 Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and times.  2 131512   Machine Elements and Mechanisms I. ZK 3  2 131512   Machine Elements and Mechanisms I. ZK 3  2 2 2 2 2 2 2 2 3 2 2 3 3 3 3 3 3 3		Preparation for presenting technical topics in German, possibly in cooperation with specialized departments.		
Prepartation for presenting technical topics in Russian, possibly in cooperation with specialized departments.  2 2046165   Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.  2 2 2 2046166   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2046163	Presentations in French language	Z	2
Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.  2046166   Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2131002   Preparing students to give presentations in Topics, with a possible co-operation with specialized departments.  2131002   Preparing students to give presentations in English on technical lopics, with a possible co-operation with specialized departments.  2131002   Englishering Design II   Products Specification), Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, generalized telerance, dimensional loops, tolerancing of angles and cones, tolerancing of threads, Integral part of course is a project where students apply and practice their knowledge from lectures.  2131026   Machine Elements and Mechanisms I   ZK   3  Preliminary design, design calculations and aplication of axles and shafts, skiding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and finings.  21311512   Machine Elements and Mechanisms I.   Z/ZK   6  Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and athereive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmission of cells, totals, inclinion, gear drives, Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, prejoaded connecting polits, clamped, presend, splined and key joints between shafts and hubs and tasks with welded and wheely pinits. Skatching of machine elements and their simple assembly units is also individual solution of simple design projects - tasks with motion screws, prejoaded connecting polits, clamped, present, and the present		Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.		
Presentations in Spanish Preparation for presenting technical topics in Spanish possibly in cooperation with specialized departments.  2 2 2 2046166 Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 3 2 2131002 Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 131002 Engineering Design II Principles of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, dimensional loops, tolerancing of targies and consex. Iclerancing of travels. Integral part of course is a project where students apply and practice their knowledge from bectures.  2 131026 Machine Elements and Mechanisms II ZK 3 3 Preliminary design, design calculations and aplication of axides and shafts, siding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and filtings.  2 131512 Machine Elements and Mechanisms I.  3	2046164	Presentations in Russian	Z	2
Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 131002 Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 131002 Engineering Design II Principies of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, dimensional loops, tolerancing of angles and cones, tolerancing of threads, integral part of course is a project where students apply and practice their knowledge from tectures.  2 131026 Machine Elements and Mechanisms II ZK 3  2 131028 Machine Elements and Mechanisms II ZK 3  Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and fittings.  2 131512 Machine Elements and Mechanisms I. Z, ZK 6  2 131512 Machine Elements and Mechanisms I. Z, ZK 6  2 131512 Machine Elements and Mechanisms I. Z, ZK 6  2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.		
Presentations in Cazech Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 131002 Principles of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, discinciples of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, discinciples of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing of threeds. Integral part of course is a project where students apply and practice their knowledge from the lectures.  2131026 Machine Elements and Mechanisms II  Z Z Z  Johns and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; prints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions (best, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded connecting boths, clamped, presead, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Selecting of machine elements and their simple assembly units is also indispensable seminar work.  2 133013  Engineering Design III.  Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)  Z 2  2 133025  Design calculations and their aplications in case of geared transmissions, axies and shafts, silding and rolling bearings, shaft couplings and clutches.  2 141504  Electric Circuits and Electronics  Design  Design of assembly unit deviated arraying, assembly drawing, technical report)  Z 2 4  Design of electrical circuits, analysis special types of electrical circuits and Electronics  Possign of electronics, Principle and typical parameters of basis seminonoductor componen	2046165	Presentations in Spanish	Z	2
Proparing students to give presentations in Englisto not technical topics, with a possible co-operation with specialized departments.		Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.		
Engineering Design II  Principles of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, dimensional copes, lolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice their knowledge from lectures.  2131026	2046166	Presentations in Czech	Z	2
Principles of ISO GPS (Genetrical Products Specification), Students will get critical knowledge about ISO system of limits and fits, tolerancing of targles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice their knowledge from lectures.  2131026   Machine Elements and Mechanisms II		Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departm	ents.	
dimensional loops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice their knowledge from loctures.  2131026   Machine Elements and Mechanisms II   ZK   3  Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and fittings.  2131512   Machine Elements and Mechanisms I.   Z,ZK   6  Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions (both, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects—tasks with motion screws, prebaded connecting boths, clamped, pressed, splined and key joints between shafts and hubs and tasks with welded and scheling of machine elements and their simple assembly units is also indispensable seminar work.  2133013   Engineering Design III.   Z   2  2133014   Engineering Design IV.   Z   2  2133015   Design of assembly unit (driat drawing, detail drawing, assembly drawing, technical report)  2133014   Engineering Design IV.   Z   2  2133025   Design   Z   4  Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and clutches.  2141504   Electric Circuits and Electronics Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits with accumulators of energy El. Power and Energy. Introduction into electronics. Principle and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505   Electrical machines and drives  AC el. curcuits. Electrical power and energy. Calculation, measurement, prover factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transfor	2131002	Engineering Design II	Z,ZK	4
Preliminary design, design calculations and aplication of axies and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and fittings.  2131512	Principles of ISO G	PS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface	texture, geometrica	al tolerance,
Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and fittings.  2131512   Machine Elements and Mechanisms I.  Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions (belt, chain, friction, gear drives). Seminars are devoted to practical individuals obtation of simple design projects - tasks with motion screws, preloaded connecting boths, champed, pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable seminar work.  2133013   Engineering Design III.  2   Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)  2133014   Engineering Design IV.  2   Design Design acculations and their aplications in case of geared transmissions, axless and shafts, sliding and rolling bearings, shaft couplings and clutches.  2141504   Electric Circuits and Electronics  1   Design Design acculations and their aplications in case of geared transmissions, axless and shafts, sliding and rolling bearings, shaft couplings and clutches.  2141504   Electrical circuits, analysis special types of electrical circuits and Electronics  1   Introduction into electricals. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits, Principle and digital aircuits, Principle and digital circuits, principle and digital aircuits, principle and digital circuits, principle and digital aircuits, principle and digital processing. Logical circuits (crediting, stabilizer, power control, operational amplifier). Analogue and digital circuits, principle and angent principle, construction, sphase transf	dimensional loc	pps, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the	ir knowledge from	lectures.
2131512 Machine Elements and Mechanisms I. Z,ZK 6  Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions (bett, chain, friction, gaer drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded connecting botts, clamped, pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable seminar work.  2133013 Engineering Design III.  2 Pesign of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)  2133014 Engineering Design IV.  2 133015 Design  2 Pesign of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)  2141504 Engineering Design IV.  2 141504 Electrical circuits, analysis special types of electrical circuits and Electronics  2 141504 Electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of energy EI. Power and Energy. Introduction into theory of electrical circuits, analysis special types of electrical circuits and Electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rediffer, stabilizer, power control, or power control, amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505 Electrical power and energy. Calculation, measurement, power factor, Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, synthesis and drives  AC et. curcuits. Electrical power and energy. Calculation, measurement, power factor, Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, synthesis and drives  AC et. curcuits. Electrical power and energ	2131026	Machine Elements and Mechanisms II	ZK	3
Agriculture   Machine Elements and Mechanisms I.   Z,ZK   6	Preliminary design	, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism,	pipelines and their	accessories
Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and achesive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions (belt, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects t saks with motion screws, preloaded connecting bolts, clamped, pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable seminar work.  2133013		and fittings.		
(belt, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded connecting bolts, clamped, pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable seminar work.  2133013	2131512	Machine Elements and Mechanisms I.	Z,ZK	6
pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable seminar work.  2133013	Joints and joining e	elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, ke	eys). Mechanical tra	ansmissions
Seminar work.  2133013	(belt, chain, frict	ion, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded	d connecting bolts,	clamped,
Engineering Design III.   Z   2	pressed, splined a		nbly units is also in	dispensable
Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)  2133014 Engineering Design IV. Z 2 2133025 Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and clutches.  2141504 Electric Circuits and Electronics Electronics Circuits with accumulators of energy, El. Power and Energy. Introduction into theory of electrical circuits, analysis special types of electrical circuits and Electronics Principle and typical parameters of basic semiconductor components. Application in electronic circuits with accumulators of energy, El. Power and Energy. Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505 Electrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, 3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, speed-torque characteristic. Low-voltage instruments. Low-voltage distribution system.  2144062 Technical Indonesian - Course II.  2144062 Technical Indonesian Language for Student Exchange Program to Indonesia  2146061 Technical Indonesian Language for Student Exchange Program to Indonesia  2146061 Technical Indonesian Language for Student Exchange Program to Indonesia  2145091 Deparmental Project  Second part of Indonesian Language for Student Exchange Program to Indonesia  2152091 Deparmental Project  Second part of Indonesian Language for Student Exchange Program to Indonesia  2152091 Deparmental Project  Second part of Indonesian Language for Student Exchange Program to Indonesian Language for Student Exch				
2133014   Engineering Design IV.   Z   2   2   2   33025   Design   Desig	2133013	,	Z	2
Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and clutches.  2141504 Electric Circuits and Electronics  2141504 Electrical circuits, analysis special types of electrical circuits and Electronics  2141504 Electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of energy, El. Power and Energy, Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits, Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505 Electrical power and energy, Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop, Electromagnet. Transformer, principle, construction, 3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, speed-torque characteristic, speed control. Synchronous machines. DC-machines, principle, parameters, operating conditions, construction, starting, speed control, speed-torque characteristic. Low-voltage instruments.  2144062 Technical Indonesian - Course II.  2144062 Technical Indonesian Language for Student Exchange Program to Indonesia  2146060 Indonesian Language for Student Exchange Program to Indonesia  2146061 Technical Indonesian - Course II.  2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				_
Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and clutches.  2141504				
Part				4
Introduction into theory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of energy. El. Power and Energy. Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505   Electrical machines and drives   Z,ZK   4  AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, 3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, speed-torque characteristic. Low-voltage instruments. Low-voltage distribution system.  2144062   Technical Indonesian - Course II.   Z,ZK   3  Basic of Indonesian Language for Student Exchange Program to Indonesia  2146060   Indonesian Language for Student Exchange Program to Indonesia  2146061   Technical Indonesian - Course I.   Z   2  Second part of Indonesian Language for Student Exchange Program to Indonesia  2152091   Departmental Project   KZ   2  2152091   Departmental Project   KZ   2  2153005   Fundamentals of Energy Conversions   Z   1  2153991   Bachelor Thesis   Z   4  Momentum, Mass and Heat Transfer   Z,ZK   5  Fundamentals of transport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanical energy equation. Residence time distributions in continuous systems. Conduction heat transfer. Forced and natural convection heat transfer with phase changes and thermal radiation. Multicomponent		n, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft coupled	ings and clutches.	
Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505			/	
amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.  2141505   Electrical machines and drives   Z,ZK   4  AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, 3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, speed-torque characteristic, speed control. Synchronous machines. DC-machines, principle, parameters, operating conditions, construction, operating conditions. Starting, speed-torque characteristic. Low-voltage distribution system.  2144062   Technical Indonesian - Course II.   Z,ZK   3  Basic of Indonesian Language for Student Exchange Program to Indonesia  2146060   Indonesian Language Course for Exchange   Z   2  Basic of Indonesian Language for Student Exchange Program to Indonesia  2146061   Technical Indonesian - Course I.   Z   2  Second part of Indonesian Language for Student Exchange Program to Indonesia  2152091   Departmental Project   KZ   2  2153005   Fundamentals of Energy Conversions   Z   1  2153991   Bachelor Thesis   Z   4  2181026   Momentum, Mass and Heat Transfer   Z,ZK   5  Fundamentals of transport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanical energy equation. Residence time distributions in continuous systems. Conduction heat transfer. Forced and natural convection heat transfer with phase changes and thermal radiation. Multicomponent				
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	I time distributions in	n continuous systems. Conduction heat transfer, Forced and natural convection heat transfer. Heat transfer with phase changes and the	rmai radiation. Mult	icomponent

2182019	Chemistry	KZ	3
	y from the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and properties		-
phase equilibriun	n, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and biochel oriented upon the material properties measurement.	mistry. Laboratory	practice is
2182091	Project	KZ	2
2102031	Absolvent se seznámí se základy oboru Procesní technika.	IVE.	2
2183991	Bachelor Thesis	Z	4
2213991	Bachelor Thesis	Z	4
2311101	Mechanics I.	Z,ZK	4
Mechanics I deals	with the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their sys	stems with and wit	hout friction.
	There are introduced the methods of description of position and motion of particles and rigid bodies.		T -
2311102	Mechanics II.	Z,ZK	4
	and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar motion, s ion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and vect	•	
goriorai opaliai mol	in kinematics. Basic theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms	· · · · · · · · · · · · · · · · · · ·	our mounous
2311107	Mechanics III.	Z,ZK	7
Mechanics III deals	s with the basic concepts of dynamics. Methods of solving the dynamics of mass particle and body motion and their systems are designed	cribed. Methods for	r describing
	and solving vibrations of systems.		I
2321039	Materials Science II.	Z,ZK	4
Fundamentals of m	etallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and the technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materi		processing,
2322029	Materials Science I.	KZ	3
	ent state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, defor		1
	erials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, in	-	
2322091	Project	KZ	2
	preliminary submission of a bachelor thesis the students, under supervision of their supervisors, prepare a review summarizing and e	_	
with particular e	mphasis on experimental technologies which can be applied in their bachelor theses. They can also mention a planned experiment o	r evaluate hitherto	obtained
2323991	knowledge or results.  Bachelor thesis	Z	4
2323991	Development of the bachelor thesis on an assignment under the supervision.	2	4
2332091	Project Project	KZ	2
2333991	Bachelor Thesis	Z	4
2342091	Project	KZ	2
	Work on specialized tasks.		_
2352091	Specialization Project	KZ	2
2362091	Project	KZ	2
2363991	Bachelor Thesis	Z	4
2371047	Automatic Control	Z,ZK	5
	ers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automat	•	•
	ns, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentra e logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained.		
via programmabi	MATLAB software as a common platform of control engineering methods are trained.	Students begin to	WOIK WILLI
2372041	Computer Support for Study	KZ	3
	ces students into creating technical and professional documents on computers or Web and into realizing technical computations with t	he use of compute	rs. Students
gain practica	al skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical	cal-based WWW I	page.
2372083	Measurement in Engineering	KZ	3
Overview of sens	sor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and	verification of mea	surement
2372091	instruments.  Project	KZ	2
2372091	An individual project from the branch of specialisation, which student will study on his/her magister level	r\Z	2
2373991	Bachelor Thesis	Z	4
	Each student will solve his individual theme under guiding of his individual supervising department specialist. Result is his/her bache		
2381054	Management and Economics of the Enterprise	Z,ZK	4
· · · · · · · · · · · · · · · · · · ·	ded to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonin	-	
	hips between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audien		
	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of ounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve th		
	hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project mana		
_	purposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be	=	
2383001	Fundamentals of Law	Z	2
	legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid		_
· ·	purces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is n	=	
	ns, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws.		
ileaus students to K	now some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relation to prepare professional presentations and to understand basic structures between law and engineering	ынрь ани ю таке	петп геаау
2383009	Communication and Dealing with People	Z	2
	eation represents an irreplaceable phenomenon in human activity, as it is present in practically all of his activities. The same applies (		
	the activities of managers. So you can't not communicate - you can only communicate badly, well and excellently.		*

K331068	Technology I	Z,ZK	5		
Foundry properties of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of forming processes. Semi-products,					
heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brasing. Surface treatment.					
K333038	Fundamentals of Technology I.	Z	3		
Production processes in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technical metals. Production of pig					
iron and steel. Casting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Hot and cold forging.					
Free and drop forging. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding. Fusion welding: Flame					
welding and arc welding with coated electrodes. Thermal cutting.					
K341014	Technology II.	Z,ZK	5		

For updated information see <a href="http://bilakniha.cvut.cz/en/FF.html">http://bilakniha.cvut.cz/en/FF.html</a> Generated: day 2025-11-30, time 23:22.