### Study plan

### Name of study plan: 10 62 67 00 BTZI 2012 P základ

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Theoretical Fundamentals of Mechanical Engineering

Type of study: Bachelor full-time

Required credits: 220 Elective courses credits: 0 Sum of credits in the plan: 220

Note on the plan: první pokus SP12BTZI-P BTZI 2012 P základ

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 210

The role of the block: P

Code of the group: 12B\*P\*P-TV

Name of the group: 07 2012 bakalá ský t locvik

Requirement credits in the group: In this group you have to gain 3 credits

Requirement courses in the group: In this group you have to complete 3 courses

Credits in the group: 3

Note on the group: Letní výcvikový kurz je předmět povinný. Student jej může vykonat kdykoliv v průběhu studia,

avšak v souladu s příslušnými ustanoveními Ústavu tělesné výchovy a sportu ČVUT

Code of the group: 12B-KMENP TZI STR

Name of the group: 01 2012 souhrn skupin 12B\*PiP-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: Společne

Společné povinné předměty bakalářských programů STR a TZSI

note on the group	j. Opoleene povinine predincty be	anaiai ony oi i	program			
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 Milan Hofreiter, R žena Petrová, Tomáš Vyhlídal, Jaromír Fišer Tomáš Vyhlídal Tomáš Vyhlídal (Gar.)	Z,ZK	5	3P+15C+05L	*	Р
2182019	Chemistry Radek Šulc, Martin Dostál, Vojt ch B lohlav, Stanislav Solna, Jan Sko ilas Radek Šulc Radek Šulc (Gar.)	KZ	3	2P+1C	1	Р
2131512	Machine Elements and Mechanisms I.  Eliška Cézová, Zden k ešpíro, Martin Dub, Martin Havlí ek, Jan Hoidekr, Ji í Houkal, Jan Kanaval, František Lopot, Ji í Mrázek, František Lopot František Lopot (Gar.)	Z,ZK	6	3P+2C	*	Р
2131026	Machine Elements and Mechanisms II Eliška Cézová, Zden k ešpíro, Martin Dub, Ji í Houkal, Jan Kanaval, František Lopot, Karel Petr, Jan Flek <b>František Lopot</b> František Lopot (Gar.)	ZK	3	3P+0C	*	Р
2141504	Electric Circuits and Electronics Stanislava Papežová, Jan Chyský, Jaroslav Novák, Lukáš Novák <b>Jaroslav</b> <b>Novák</b> Jan Chyský (Gar.)	Z,ZK	4	2P+0C+2L	*	Р
2141505	Electrical machines and drives Jan Chyský, Jaroslav Novák, Lubomír Musálek, Michael Valášek <b>Jaroslav</b> <b>Novák</b> Jan Chyský (Gar.)	Z,ZK	4	2P+0C+2L	*	Р
2021041	Physics I.	Z,ZK	7	4P+1L	*	Р
2021025	Physics II.	Z,ZK	4	1P+2L	3	Р
2133025	Design František Lopot František Lopot (Gar.)	Z	4	0P+4C	*	Р
2011021	Constructive Geometry Ivana Linkeová	Z,ZK	6	3P+2C	*	Р

2381054	Management and Economics of the Enterprise Olga Heralová, Št pánka Uli ná, Vladimír Brdek, Petr Žemli ka Olga Heralová (Gar.)	Z,ZK	4	2P+2C	*	Р
2011056	Mathematics I Radka Keslerová, Marta Hlavová, Ji í Holman, Gejza Dohnal, Marta ertíková, 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 Radka Keslerová, Ji í Holman, Gejza Dohnal, Marta ertíková, Vladimír Hric, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Tomáš Neustupa, Stanislav Kra mar Stanislav Kra mar (Gar.)	Z,ZK	5	2P+2C	*	Р
2311101	Mechanics I.  Michael Valášek, Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Pavel Steinbauer, Michael Valášek Michael Valášek (Gar.)	Z,ZK	4	2P+2C	*	Р
2311102	Mechanics II.  Michael Valášek, Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Pavel Steinbauer, Michael Valášek Václav Bauma (Gar.)	Z,ZK	4	2P+2C	*	Р
2121500	Fluid Dynamics	Z,ZK	5	3P+2C	*	Р
2322029	Materials Science I.  Jakub Horník, Jana Sobotová, Ji í Cejp, Elena ižmárová, Pavlína Hájková, Stanislav Krum, Jan Kr il, Vladimír Mára, Lucie Pilsová, Jana Sobotová Jana Sobotová (Gar.)	KZ	3	2P+1L	2	Р
2321039	Materials Science II.  Jakub Horník, Jana Sobotová, Ji í Cejp, Elena ižmárová, Jan Walter, Pavlína Hájková, Stanislav Krum, Jan Kr il, Vladimír Mára, Stanislav Krum Jana Sobotová (Gar.)	Z,ZK	4	2P+2L	*	Р
2011049	Numerical Mathematics Radka Keslerová, Ji í Holman, Marta ertíková, Vladimír Hric, Petr Louda, Lukáš Hájek, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Petr Svá ek Petr Svá ek (Gar.)	Z,ZK	4	2P+2C	4	Р
2012037	Computer Graphics Marta Hlavová, Ji í Holman, Nikola Pajerová, Martin Hanek, Jan Karel, Ivana Linkeová, Jaroslav Cibulka <b>Ivana Linkeová</b>	KZ	3	1P+1C	*	Р
2372041	Computer Support for Study Vladimír Hlavá	KZ	3	1P+1C	*	Р
2181026	Momentum, Mass and Heat Transfer Martin Dostál, Vojt ch B Iohlav, Stanislav Solna , Jan Sko ilas, Tomáš Jirout, Adam Krupica, Ji í Moravec Tomáš Jirout Tomáš Jirout (Gar.)	Z,ZK	5	3P+1C	*	Р
2132001	Engineering Design I. Karel Petr	KZ	2	1P+2C	1	Р
2131002	Engineering Design II  Martin Dub, Martin Havlí ek, Jan Hoidekr, Jan Kanaval, Karel Petr, Marek Štádler, Jan Flek Karel Petr Karel Petr (Gar.)	Z,ZK	4	2P+3C	2	Р
2133013	Engineering Design III.  Jan Hoidekr, Jan Kanaval, František Lopot, David Skalický, Roman Uhlí Jan  Hoidekr Jan Hoidekr (Gar.)	Z	2	0P+2C	Z	Р
2133014	Engineering Design IV. František Lopot František Lopot (Gar.)	Z	2	0P+2C	L	Р
2372083	Measurement in Engineering Martin Novák, Vladimír Hlavá Martin Novák Martin Novák (Gar.)	KZ	3	1P+0C+2L	*	Р
2331068	Technology I. Jan Kudla ek	Z,ZK	5	2P+2C	*	Р
2341014	Technology II. Pavel Novák	Z,ZK	5	2P+0C+2L	*	Р
2121023	Thermodynamics	Z,ZK	5	3P+2C	*	Р
2131005	History of Technology	ZK	3	2P+0C	1	Р
2012035	Algorithmization and Programming Fundamentals Ji í Holman, Marta ertíková, Vladimír Hric, Lukáš Hájek, Jan Halama, Vladimír Prokop, Martin Hanek, Jan Karel, Josef Musil, Petr Svá ek Petr Svá ek (Gar.)	KZ	4	1P+2C	*	Р
2153005	Fundamentals of Energy Conversions Ond ej Bartoš, Tomáš Dlouhý, Václav Dostál, Zden k Funda, Miroslav Gleitz, Jan Havlík, Št pán Hrouda, Jitka Jeníková, Guk Chol Jun, Jan Havlík	Z	1	1P+1C	*	Р
2383001	Fundamentals of Law Václav Pilík Václav Pilík (Gar.)	Z	2	1P+1C	*	Р

# Characteristics of the courses of this group of Study Plan: Code=12B-KMENPTZI STR Name=01 2012 souhrn skupin 12B\*PiP-KMEN pro i od 1 do 6

2371047 Automatic Control Z,ZK 5

Automatic controllers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automatic control theory and practice like transfer functions, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentrates on logic control via programmable logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained. Students begin to work with MATLAB software as a common platform of control engineers.

2182019 Chemistry	KZ	3					
General chemistry from the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and process engineering 1/2 is deveted to ergosis chemistry (hydrocorpora polymera) and by		=					
phase equilibrium, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and biochemistry. Laboratory practice is oriented upon the material properties measurement.							
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, co	1 '						
(belt, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, prek	<del>-</del>	· ·					
pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple.	e assembly units is als	so indispensable					
seminar work.	716						
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 mech and fittings.	anism, pipelines and t	neir accessories					
2141504 Electric Circuits and Electronics	Z,ZK	4					
Introduction into theory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulate	1 '	•					
Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stall							
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, principl	e, construction,					
3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, specific construction, operating conditions.	•						
control. Synchronous machines. DC-machines, principle, parameters, operating conditions, construction, starting, speed control, speed-torque ch	naracteristic. Low-volta	age instruments.					
Low-voltage distribution system.	7.71	-					
2021041 Physics I.	Z,ZK	7					
Kinematics and dynamics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, ela waves. Fluid mechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance							
insulators. Magnetic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and							
measurements of 11 various experiments related to the lectures.		, 0					
2021025 Physics II.	Z,ZK	4					
Faraday's law of electromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties	s of electromagnetic w	aves. Interaction					
of radiation with matter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen ato							
Spectra, x-rays, ;laser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of							
2133025 Design	Z	4					
Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings							
2011021   Constructive Geometry	Z,ZK	6					
The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.	7.71						
2381054 Management and Economics of the Enterprise	Z,ZK	4					
The course is designed to give students the understanding of economic principles. The economical part of the course is consisted from: explana revenues, expenses and income, concept of investment and calculations per product, presentation how to assemble a basic operating budget ar							
of the financial statements. The management introduces the basic managerial functions and their contents, the uses of network analysis in proje	•						
of multi-criteria decision, the basics of marketing and strategic management.	or managomoni, min	шо аррисанон					
2011056 Mathematics I	Z,ZK	8					
In the course, greater emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and cor		_					
will also get to know the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic	areas: eigennumbers a	and eigenvectors					
of a matrix, Taylor polynomial, integral as a limit function, integration of some special functions.							
2011062 Matematika II.	Z,ZK	8					
Open and closed set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Di	· · · · · · · · · · · · · · · · · · ·						
and curl (rotation). Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) in	-						
of integrals to polar, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and field, independence of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a		•					
Gauss-Ostrogradskij theorem.	r vector neta timoagri	a surface. The					
2011009 Mathematics III	Z,ZK	5					
An introductory course in ordinary differential equation and infinite series.	2,21	Ū					
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	1 '	without friction.					
There are introduced the methods of description of position and motion of particles and rigid bodies.							
2311102 Mechanics II.	Z,ZK	4					
Kinematics of point and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar matrix.	otion, spherical motic	n, screw motion,					
general spatial motion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric a	and vector method. Gr	aphical methods					
in kinematics. Basic theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms.							
2121500 Fluid Dynamics	Z,ZK	5					
The basic course in fluid dynamics deals with fundamental laws of hydrostatics and hydrodynamics and their application on the basic problems,							
pressure losses, simplified solution of unsteady flow. Basic information on more complicated problems (laminar and turbulent flow, boundary layer introduced as well.	i friedry, now seppara	atrion) are					
2322029 Materials Science I.	KZ	3					
History and present state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects,		_					
fracture of materials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformation	=						
2321039 Materials Science II.	Z,ZK	4					
Fundamentals of metallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal	'						
technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materials.							
2011049 Numerical Mathematics	Z,ZK	4					
Numerical solution of systems of linear equations, iterative methods. Numerical solution of nonlinear algebraic equations. Least squares method. Numerical solution of systems of linear equations, iterative methods.		dinary differential					
equations, initial and boundary 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
	es students into creating technical and professional documents on computers or Web and into realizing technical computations	1	-
gain practical skills t	by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technic	al-based WWW pag	e.
2181026	Momentum, Mass and Heat Transfer	Z.ZK	5
	insport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mecha	1 ' 1	_
	continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes ar		
systems. Mass trans	sfer by molecular diffusion, convection, with chemical reactions and interphase mass transfer.		
2132001	Engineering Design I.	KZ	2
Basic of technical re	presentation, dimensioning and tolerancing	' '	
2131002	Engineering Design II	Z,ZK	4
rinciples of ISO GF	PS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, su	rface texture, geome	etrical tolerance
imensional loops, t	olerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice t	heir knowledge from	lectures.
2133013	Engineering Design III.	Z	2
esign of assembly	unit (draft drawing, detail drawing, assembly drawing, technical report)	'	
2133014	Engineering Design IV.	Z	2
2372083	Measurement in Engineering	KZ	3
	principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration a	1	asurement
nstruments.			
331068	Technology I.	Z,ZK	5
	of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of	1 '	. Semi-product
eating-up. Cutting.	Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brazing. Surface treatments.		
341014	Technology II.	Z,ZK	5
nechanics of chip fo	ormation, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining e	conomics. Automati	on of processes
rogramming of mar	nufacture. Engineering metrology. Assembly techniques. Introduction to process planing.		
121023	Thermodynamics	Z,ZK	5
he course deal with	n a basic engineering approach to classical thermodynamics, heat transfer and compressible flow through nozzles and diffuser		nd principles ar
troduced, and they	are applied mostly to systems behaving as ideal gases or typical vapours. Basic notions associated with ideal mixtures are studied	with an emphasis or	n psychometric
leat transfer covers	fundamentals of conduction, convection and radiation. Heat exchangers are treated as an engineering application. Exercises	and labs are devoted	d to practical
roblems and exper	imental technique.		
131005	History of Technology	ZK	3
evelopement of hu	man knowledge in the domain of science and technology in the retrospective of the developement of our civilization. Emphasis	s is given upon new	branches of
	cial attention to the contribution of mining, iron metallurgy, power engineering, transportation and of the machine industry in th	e narrower sense of	the word.
012035	Algorithmization and Programming Fundamentals	KZ	4
rogramming in MA	TLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. N	latrices, vectors and	l operations.
/ritting M-script. Inp	out and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations.	Systems of linear ed	quations. Scrip
	ture of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers	•	
	inimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution	of systems of linear	equations.
153005	Fundamentals of Energy Conversions	Z	1
383001	Fundamentals of Law	Z	2
asic orientation in	legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to p	provide a view into the	ne Czech Lega
rder, particular sou	urces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations.	It is necessary for st	udents to kno
ur legal institutions	, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of la	aws. At the same tim	e the course
ads students to kn	ow some practical habits and processes while putting the law on, especially in domain of contracts and other important legal re	lationships and to m	ake them rea

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

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 Ivana Linkeová	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 Kra mar	ZK	2	0P+0C	*	Р
231A101	Mechanics I.A Michael Valášek	ZK	2	0P+0C	*	Р
231A102	Mechanics II.A Michael Valášek	ZK	2	0P+0C	*	Р

231A107	Mechanics III.A Michael Valášek, Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Pavel Steinbauer, Michael Valášek Michael Valášek (Gar.)		4	0P+0C	*	Р
212A500	Fluid Dynamics A	ZK	3	0P+0C	*	Р
201A049	Numerical Mathematics A  Lud k Beneš	ZK	2	0P+0C	*	Р
212A023	Thermodynamics A	ZK	2	0P+0C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BT\*\*P-ALFA Name=02 2012 ALFA povinné pro TZI

202A041	Physics I.		j 3	ı
Kinematics and dynamic	es of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic	properties of bod	lies. Oscillations,	l
waves. Fluid mechanics	Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	nductors, semicor	nductors,	l
insulators. Magnetic field	d. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and inc	lirect measureme	nts, regression,	l
measurements of 11 val	rious experiments related to the lectures.		l	ı

202A025 | Physics II.A | ZK | 2

Faraday's law of electromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic waves. Interaction 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.

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 relations.			•
201A056	Mathematics I.A	ZK	4
Introduction to linear al		•	
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. Differential operators div (divergence) and curl (rotation). Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, Fubini theorem. Transformation of integrals to polar, cylindrical 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 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.

201A009	Mathematics III.A	ZK	2
231A101	Mechanics I.A	ZK	2
231A102	Mechanics II.A	ZK	2
231A107	Mechanics III.A	ZK	4
212A500	Fluid Dynamics A	ZK	3

The basic course in fluid dynamics deals with fundamental laws of hydrostatics and hydrodynamics and their application on the basic problems, as 1D flow in ducts, estimation of pressure losses, simplified solution of unsteady flow. Basic information on more complicated problems (laminar and turbulent flow, boundary layer theory, flow sepparatrion) are introduced as well.

201A049	Numerical Mathematics A	ZK	2
212A023	Thermodynamics A	ZK	2

The course deal with a basic engineering approach to classical thermodynamics, heat transfer and compressible flow through nozzles and diffusers. Basic concepts and principles are introduced, and they are applied mostly to systems behaving as ideal gases or typical vapours. Basic notions associated with ideal mixtures are studied with an emphasis on psychometrics. Heat transfer covers fundamentals of conduction, convection and radiation. Heat exchangers are treated as an engineering application. Exercises and labs are devoted to practical problems and experimental technique

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

Name of the group: 04 2012 prezen ní ZT v po adí 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
2333038	Fundamentals of Technology I.  Marie Kola íková	Z	3	1P+1C	*	Р

#### Characteristics of the courses of this group of Study Plan: Code=12B\*P\*P-ZT12 Name=04 2012 prezen ní ZT v po adí 12

2333038 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.

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

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. Michael Valášek, Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Pavel Steinbauer, Michael Valášek Michael Valášek (Gar.)		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.

Mechanics IIII 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 bakalá ské povinn 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
2383019	Philosophical Issues Of Individual and Science	Z	2	1P+1C	*	PV
2383009	Communication and Dealing with People Jan Horejc Jan Horejc (Gar.)	Z	2	1P+1C	*	PV
2383008	Managerial Psychology	Z	2	1P+1C	*	PV

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

2383019	Philosophical Issues Of Individual and Science	Z	2				
2383009	Z	2					
Human communication	represents an irreplaceable phenomenon in human activity, as it is present in practically all of his activities. The same applies	s (with specific mo	odifications) to				
the activities of managers. So you can't not communicate - you can only communicate badly, well and excellently.							
2383008	Managerial Psychology	Z	2				

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

Name of the group: 08 2012 bakalá ské zkoušky z jazyk 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

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
2041061	English-Bachelor Exam Michele Le Blanc, Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub, Hana Volejníková, Veronika Kratochvílová <b>Nina</b> Procházková Ayyub	Z,ZK	2	0P+2C	*	PV
2041063	French - Bachelor Exam /FME Michaela Schusová, Dušana Jirovská Eliška Vítková Eliška Vítková (Gar.)	Z,ZK	2	0P+2C	*	PV
2041062	German - Bachelor Exam / FME Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Jaroslava Kommová	Z,ZK	2	0P+2C	*	PV

2041065	Russian - Bachelor Exam / FME Eliška Vítková, Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková	Z,ZK	2	0P+2C	*	PV
2041064	Spanish - Bachelor Exam / FME  Fliška Vítková Michaela Schusová Jaime Andrés Villagómez Eliška Vítková	Z,ZK	2	0P+2C	*	PV

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

011K & 1210							
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	iculties, to take pa	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	iculties, to take pa	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	iculties, to take pa	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	iculties, to take pa	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	on European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take pa	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 Ji i Fürst	KZ	2	0P+2C	*	PV
2112091	Project	KZ	2	0P+2C	*	PV
2122091	Department Project	KZ	2	0P+2C	*	PV
2132091	Branch Project Roman Uhlí	KZ	2	0P+2C	*	PV
2152091	Deparmental Project	KZ	2	0P+2C	*	PV
2162091	Project	KZ	2	0P+2C	*	PV
2182091	Project Tomáš Jirout	KZ	2	0P+2C	*	PV
2222091	Project	KZ	2	0P+2C	*	PV
2312091	Project Michael Valášek	KZ	2	0+2	*	PV
2322091	Project Jakub Horník, Jana Sobotová, Ji í Cejp, Elena ižmárová, Pavlína Hájková, Stanislav Krum, Jan Kr il, Vladimír Mára, Jakub Horváth, Stanislav Krum	KZ	2	0P+2C	*	PV
2332091	Project Bohumír Bedná, Barbora Bryksí Stunová, Jan ermák, Jaroslav ervený, Tomáš Gur ík, Aleš Herman, Ladislav Kola ík, Marie Kola íková, Viktor Kreibich, Ladislav Kola ík Aleš Herman (Gar.)	KZ	2	0P+2C	*	PV
2342091	Project Vladislav Andronov, Libor Beránek, František Holešovský, Tomáš Kellner, Michal Koptiš, Ji í Kyncl, Martin Kyncl, Jan Mádl, Petr Mikeš, Pavel Novák	KZ	2	0P+2C	*	PV
2352091	Specialization Project	KZ	2	2C	*	PV
2362091	Project	KZ	2	0P+2C	*	PV
2372091	Project	KZ	2	0P+2C	*	PV
2382091	Specialization Project Vladimír Brdek, Ladislav Vaniš, Barbora Stieberová	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
2112091	Project	KZ	2

	e subject is given by the topic of bachelor's work after consultion with supervisor of bachelo	•	
2132091	Branch Project	KZ	2
2152091	Deparmental Project	KZ	2
2162091	Project	KZ	2
Student will be inf	formed about basics of environmental engineering and creation of thermal comfort.	'	
2182091	Project	KZ	2
Absolvent se sezr	námí se základy oboru Procesní technika.	,	
2222091	Project	KZ	2
2312091	Project	KZ	2
Individual asignment	nent .	,	•
marriadar dorginin	Kitt		
2322091	Project	KZ	2 studied literatu
2322091 On the basis of the	Project repreliminary submission of a bachelor thesis the students, under supervision of their superrepression on experimental technologies which can be applied in their bachelor theses. They can	risors, prepare a review summarizing and evaluating the	studied literatu
2322091 On the basis of the with particular em	Project repreliminary submission of a bachelor thesis the students, under supervision of their superrepression on experimental technologies which can be applied in their bachelor theses. They can	risors, prepare a review summarizing and evaluating the	studied literatu
2322091 On the basis of the with particular em knowledge or resi	Project repreliminary submission of a bachelor thesis the students, under supervision of their superriphasis on experimental technologies which can be applied in their bachelor theses. They coults.	visors, prepare a review summarizing and evaluating the an also mention a planned experiment or evaluate hither	studied literatu to obtained
2322091 On the basis of th with particular em knowledge or rest 2332091	Project  re preliminary submission of a bachelor thesis the students, under supervision of their super- rephasis on experimental technologies which can be applied in their bachelor theses. They caults.  Project  Project	visors, prepare a review summarizing and evaluating the an also mention a planned experiment or evaluate hither	studied literatu to obtained
2322091 On the basis of the with particular em knowledge or results 2332091 2342091	Project  re preliminary submission of a bachelor thesis the students, under supervision of their super- rephasis on experimental technologies which can be applied in their bachelor theses. They caults.  Project  Project	visors, prepare a review summarizing and evaluating the an also mention a planned experiment or evaluate hither	studied literatu to obtained
2322091 On the basis of the with particular emknowledge or rest 2332091 2342091 Work on specializ	Project  re preliminary submission of a bachelor thesis the students, under supervision of their super- rephasis on experimental technologies which can be applied in their bachelor theses. They caults.  Project  Project  red tasks.	visors, prepare a review summarizing and evaluating the an also mention a planned experiment or evaluate hither   KZ   KZ	studied literatu to obtained
2322091 On the basis of the with particular emknowledge or rest 2332091 2342091 Work on specializ 2352091 2362091	Project	visors, prepare a review summarizing and evaluating the an also mention a planned experiment or evaluate hither  KZ  KZ  KZ	studied literatu to obtained  2 2 2
2322091 On the basis of the with particular emenowhedge or rest 2332091 2342091 Work on specializ 2352091 2362091 2372091	Project	visors, prepare a review summarizing and evaluating the an also mention a planned experiment or evaluate hither  KZ  KZ  KZ  KZ  KZ	studied literatu to obtained  2 2 2 2 2

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

Department Project

Name of the group: 11 2012 BTZI 6. sem bakalá ské 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:

2122091

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
2123991	Bachelor Thesis	Z	4	0P+0C	*	PV
2133991	Bachelor Thesis Roman Uhlí	Z	4	0P+0C	*	PV
2163991	Bachelor Thesis	Z	4	0P+0C	*	PV
2373991	Bachelor Thesis	Z	4	0P+0C	*	PV
2313991	Bachelor Thesis Michael Valášek	Z	4	0+0	*	PV
2113991	Bachelor Thesis	Z	4	0P+0C	*	PV
2363991	Bachelor Thesis	Z	4	0P+0C	*	PV
2153991	Bachelor Thesis	Z	4	0P+0C	*	PV
2223991	Bachelor Thesis	Z	4	0P+0C	*	PV
2323991	Bachelor thesis	Z	4	0P+6C	*	PV
2183991	Bachelor Thesis Tomáš Jirout	Z	4	0P+0C	*	PV
2383991	Bachelor Thesis	Z	4	0P+0C	*	PV
2333991	Bachelor Thesis Jan Kudlá ek	Z	4	0P+0C	*	PV
2013991	Bachelor Thesis	Z	4	0P+0C	*	PV
2353991	Bachelor Thesis	Z	4		*	PV

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

2123991	Bachelor Thesis	Z	4				
2133991	Bachelor Thesis	Z	4				
2163991	Z	4					
Bachelor Thesis is final	Bachelor Thesis is final individual work. This work checks ability of logical independent technical thinking and treatment with technical materials. There is applied acquired knowled						
from previous study per	iods.						
2373991	Bachelor Thesis	Z	4				
Each student will solve	his individual theme under guiding of his individual supervising department specialist. Result is his/her bachelor thesis.		•				
2313991	Z	4					
Individual assignment	Individual assignment						
2113991	Bachelor Thesis	Z	4				

2363991	Bachelor Thesis	Z	4
2153991	Bachelor Thesis	Z	4
2223991	Bachelor Thesis	Z	4
2323991	Bachelor thesis	Z	4
Development of the b	achelor thesis on an assignment under the supervision.		
2183991	Bachelor Thesis	Z	4
2383991	Bachelor Thesis	Z	4
Work on specialized t	asks related to the focus of a thesis.		
2333991	Bachelor Thesis	Z	4
2013991	Bachelor Thesis	Z	4
2353991	Bachelor Thesis	Z	4
The service feetings	n proceeding the final theorie within the econe of the ecological tenie of the backglowthesis. The student is convenient with the s	anaral principles	of the final thesis

The course focuses on processing the final thesis within the scope of the assigned topic of the bachelor thesis. The student is acquainted with the general principles of the final thesis and during regular weekly consultations with the supervisor proceeds in the professional solution of the assigned problem and at the same time works on the actual text of the final thesis. In the course of the solution, the student completes a small oral presentation where the work in progress is presented.

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 doporu ené seminá e

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

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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, Olga Majlingová Radka Keslerová	Z	2	0P+2C	1	V

Characteristics of the courses of this group of Study Plan: Code=12B\*\*1V-DOP SEMI Name=05 2012 doporu ené seminá e

2026016	Physics - Seminar	Z	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 doporu ené 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) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2046155	English Conversation Michele Le Blanc, Eliška Vítková, Ilona Šimice, Nina Procházková Ayyub Nina Procházková Ayyub Michele Le Blanc (Gar.)	Z	2	0P+2C	*	V
2046156	English Conversation Michele Le Blanc, Eliška Vítková, Ilona Šimice, Nina Procházková Ayyub Nina Procházková Ayyub	Z	2	0P+2C	L	V
2046071	English - Lower Intermediate Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub, Hana Volejníková, Veronika Kratochvílová	Z	2	0P+2C	L	V
2046070	English - Lower Intermediate Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub, Hana Volejníková, Veronika Kratochvílová <b>Michaela Schusová</b> Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V

2046074	English - Advanced Michele Le Blanc, Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046075	English - Advanced Michele Le Blanc, Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub, Hana Volejníková, Veronika Kratochvílová Ilona Šimice	Z	2	0P+2C	L	V
2046072	English - Upper Intermediate  Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub,  Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046073	English - Upper Intermediate  Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub,  Hana Volejníková, Veronika Kratochvílová Ilona Šimice	Z	2	0P+2C	L	V
2046068	English - Beginners  Eliška Vítková, Michaela Schusová, Ilona Šimice, Hana Volejníková, Veronika  Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046069	English - Beginners  Eliška Vítková, Michaela Schusová, Ilona Šimice, Nina Procházková Ayyub,  Hana Volejníková, Veronika Kratochvílová Ilona Šimice	Z	2	0P+2C	L	V
2046126	Czech Lower Intermediate  Jaroslava Kommová	Z	2	0P+2C	L	V
2046125	Czech Lower Intermediate  Jaroslava Kommová	Z	2	0P+2C	Z	V
2046118	Czech -Advanced Jaroslava Kommová	Z	2	0P+2C	L	V
2046117	Czech -Advanced Jaroslava Kommová	Z	2	0P+2C	Z	V
2046127	Czech - Upper Intermediate  Jaroslava Kommová	Z	2	0P+2C	Z	V
2046128	Czech - Upper Intermediate  Jaroslava Kommová	Z	2	0P+2C	L	V
2046119	Czech Language for Beginners I.  Jaroslava Kommová	Z	2	0P+2C	Z	V
2046120	Czech Language for Beginners II.  Jaroslava Kommová	Z	2	0P+2C	L	V
2046086	French - Lower Intermediate Course Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046087	French - Lower Intermediate Course Michaela Schusová, Dušana Jirovská Dušana Jirovská	Z	2	0P+2C	L	V
2046091	French - Advanced Michaela Schusová, Dušana Jirovská Dušana Jirovská	Z	2	0P+2C	L	V
2046090	French - Advanced Eliška Vítková, Michaela Schusová, Dušana Jirovská Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046089	French - Upper Intermediate  Michaela Schusová, Dušana Jirovská Dušana Jirovská	Z	2	0P+2C	L	V
2046088	French - Upper Intermediate  Eliška Vítková, 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 Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	L	V
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	V
2046078	German - Lower Intermediate Course Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046079	German - Lower Intermediate Course Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Eliška Vítková	Z	2	0P+2C	L	V
2046083	German - Advanced Course Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Jaroslava Kommová	Z	2	0P+2C	L	V
2046082	German - Advanced Course  Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Michaela  Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046081	German - Upper Intermediate Course Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Eliška Vítková	Z	2	0P+2C	L	V
2046080	German - Upper Intermediate Course Eliška Vítková, Michaela Schusová, Jaroslava Kommová, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
	, ,					

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

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

2046155	English Conversation	Z	2
Improving communicati	ve skills in speaking on general topics and general technical topics.		
2046156	English Conversation	Z	2
Improving communicati	ve skills in speaking on general topics and general technical topics.		
2046071	English - Lower Intermediate	Z	2
Mapped to the Commo	n 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	ıl 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	n of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Writ	ten and oral skills	on advanced
1 *	ummary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's fie	ld of studies withou	out difficulties.
Grammar structures on	advanced level. B1 - B2.		
2046075	English - Advanced	Z	2
Mapped to the Commo	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E	nglish without gre	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 compre	hension of popula	r-scientific and
scientific articles or text	s from student's field of studies without difficulties. Grammar structures on advanced level.		
2046072	English - Upper Intermediate	Z	2
The aim is to extend lar	guage skills taking into consideration professional English and common professional terminology. Comprehension of standard	l 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	Forestate. Una production and state	7 7	
	English - Upper Intermediate n European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional Er	nglish and common	2 professional
	nsion of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on interi		
knowledge.			
2046068	English - Beginners	Z	2
Aim: Basic vocabulary	of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (	professional langua	ge). A1
2046069	English - Beginners	Z	2
' '	n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understa	nding and use of ba	sic expressions
	ninology (professional language).		
2046126	Czech Lower Intermediate	Z	2
_	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	iem. Writing in a sim	iple way about
2046125	and comprehension of simple texts. Improvement of professional language.	Z	2
!	Czech Lower Intermediate  arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about th		
_	and comprehension of simple texts. Improvement of professional language.	ioni. Whiting in a sin	ipic way about
2046118	Czech -Advanced	Z	2
	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in	1	
active participation in	discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehension	nsion of popular-sci	entific and
scientific articles or te	s from student's field of studies without difficulties. Grammar structures on advanced level.		
2046117	Czech -Advanced	Z	2
	ten language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in		essing opinions
	write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical a		
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. Abi ne´s opinions and plans. Reading and understanding general and technical texts.	lility to describe expe	eriences and
2046128	Czech - Upper Intermediate	Z	2
l	Оzectr - Opper intermediate n European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professiona	1	
' '	nsion of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on inte		-
knowledge technical la			<b>3</b> · ·
2046119	Czech Language for Beginners I.	Z	2
Basic vocabulary of ev	eryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profe	ssional language)	
2046120	Czech Language for Beginners II.	Z	2
Mapped to the Commo	n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understa	nding and use of ba	sic expressions
	ninology (professional language).		
2046086	French - Lower Intermediate Course	Z	2
	what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. W	riting in a simple wa	ay about familia
-	mprehension of simple texts. Improvement of professional language.		
2046087	French - Lower Intermediate Course	Z	2
	Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations whicl Beaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2046091	French - Advanced	Z	2
	ן ו פרוטון - Advartoed Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to		_
' '	tive speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading a	-	
	ular scientific and technical articles.		
2046090	French - Advanced	Z	2
Comprehension of spo	ven language as well as lectures in French on topics familiar to the student. Communication with native speakers, participation	on in discussions. E	xpressing
opinions. Written skills	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and t	echnical articles.	
2046089	French - Upper Intermediate	7	2
		Z	
	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students of	comes across at wo	
<u> </u>	lking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and underst	comes across at wo	technical texts
2046088	Iking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and underst French - Upper Intermediate	comes across at wo	technical texts
2046088 Understanding standa	Iking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and underst French - Upper Intermediate dispects about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abi	comes across at wo	technical texts
2046088 Understanding standa events, briefly explain	Iking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and underst French - Upper Intermediate dispeech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abiline's opinions and plans. Reading and understanding general and technical texts.	comes across at wo tanding general and Z	technical texts 2 eriences and
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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 expressions of general scientific terminology (professional language)  2046135 Russian - Beginners Z 2  Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (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 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.  2046098 Spanish - Lower Intermediate Z 2  2understanding 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.  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. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.  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			7	2
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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	2046096 Aim:Understanding clea	Spanish - Beginners  arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	1	
	2046096 Aim:Understanding clea	Spanish - Beginners  arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the and comprehension of simple texts. Improvement of professional language.	m. Writing in a sim	nple way about
	2046096 Aim:Understanding clea familiar topics. Reading 2046097	Spanish - Beginners arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the and comprehension of simple texts. Improvement of professional language.  Spanish - Beginners	m. Writing in a sim	nple way about

## 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 relation	Z,ZK	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. Numerical 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
_	er emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and connection the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic areas: e of a matrix, Taylor polynomial, integral as a limit function, integration of some special functions.	-	
2011062	Matematika II.	Z,ZK	8
	set, boundary in EAk. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Different		
of integrals to polar	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 Greer se 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.	n's theorem. A pote	ential vector
2012035	Algorithmization and Programming Fundamentals	KZ	4
	MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matri		perations.
	put and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Syste		
	ructure of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. St : minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of s		
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  The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relation	Dns.	3
201A049	Numerical Mathematics A	ZK	2
201A056	Mathematics I.A Introduction to linear algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable	ZK	4
201A062	Mathematics II.A	ZK	4
and curl (rotation). F	set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Different 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 Greer se 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.	Fubini theorem. Tra n's theorem. A pote	nsformation ential vector
2021025	Physics II.	Z,ZK	4
· ·	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elecatter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and	_	
	ser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 expe	-	
2021041	Physics I.	Z,ZK	7
1	namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic pro	-	
	echanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co c field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire measurements of 11 various experiments related to the lectures.		
2026016	Physics - Seminar	Z	2
'	The subject is mainly meant for high-school students for repetition of high-school physics.		
202A025	Physics II.A	ZK	2
I	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elec atter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and	-	
	ser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 expe	-	
202A041	Physics I.	ZK	3
1	namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic pro	-	
	echanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co c field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire measurements of 11 various experiments related to the lectures.		
2041061	English-Bachelor Exam	Z,ZK	2
	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult		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
Manage at 4 a 41 a O a sa	I	1 ' 1	_
Mapped to the Con	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficul	illes, to take part in t	uiscussions,
	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 Con	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficul	lties, to take part in o	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 Con	imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficul	lties, to take part in c	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
	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficul	1 ' 1	!
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	,	
2046068	English - Beginners	7	2
	abulary of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (	<b>∠</b> nrofessional langua	
		professional langua	
2046069	English - Beginners		2
Mapped to the Cor	nmon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding	g and use of basic e	expressions
	of general scientific terminology (professional language).		_
2046070	English - Lower Intermediate	Z	2
Aim: Understandir	ng 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. A1 - A2.		
2046071	English - Lower Intermediate	Z	2
Mapped to the Co	mmon European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which a	student meets eithe	er at school
or at his/her free	time and speaking about them. Writing in a simple way about familiar topics, reading and comprehension of simple texts. Improvement	ent of professional la	anguage.
2046072	English - Upper Intermediate	Z	2
The aim is to exten	d language skills taking into consideration professional English and common professional terminology. Comprehension of standard Er	nalish speech and c	onversation
	about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2		
2046073	English - Upper Intermediate	7	2
	pmmon European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional Engli		
	rehension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intermedi		
l terminology. Comp	knowledge.	iale level. Di baueriii	ng graninai
0040074	<u> </u>	7	
2046074	English - Advanced	Z	2
-	hension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Writte		
level. Ability to wr	ite 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	Z	2
Mapped to the Co	ommon European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in En	glish without great	difficulties
and active particin	. C C P C AAPSG		
and active particip	ation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and comprehei	nsion of popular-sc	
and active particip	vation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay, reading and comprenel scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	nsion of popular-sc	
2046076		nsion of popular-sc	
2046076	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	Z	eientific and
2046076	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	Z	eientific and
2046076 Basic voca 2046077	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	Z professional langua	eientific and 2 ge) 2
2046076 Basic voca 2046077	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding and	Z professional langua	eientific and 2 ge) 2
2046076 Basic voca 2046077 Mapped to the lev	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).	Z professional langua Z nd use of basic expr	ge) 2 ressions of
2046076 Basic voca 2046077 Mapped to the lev 2046078	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (part of the common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course	Z professional language Z nd use of basic expr	2 ge) 2 ressions of
2046076 Basic voca 2046077 Mapped to the lev 2046078	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course ag clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Z professional language Z nd use of basic expr	2 ge) 2 ressions of
2046076 Basic voca 2046077 Mapped to the lev  2046078 Aim: Understandir	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course reg 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.	Z professional language Z nd use of basic expressional Z Writing in a simple	2 ge) 2 ressions of 2 e way about
2046076 Basic voca 2046077 Mapped to the lev  2046078 Aim: Understandir  2046079	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course reg 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.  German - Lower Intermediate Course	Z professional language Z nd use of basic express Z Writing in a simple	ge) 2 ressions of 2 way about 2
2046076 Basic voca 2046077 Mapped to the lev  2046078 Aim: Understandir  2046079 Mapped to the leve	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course reg 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.  German - Lower Intermediate Course rel of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	Z professional language Z nd use of basic express Z Writing in a simple Z student meets eith	ge) 2 ressions of 2 way about 2 er at school
2046076 Basic voca 2046077 Mapped to the lev 2046078 Aim: Understandir 2046079 Mapped to the leve or in his/her free	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (particle)  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course registed of common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a student meets at school or in his/her free time and speaking about them.  German - Lower Intermediate Course registed of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a stime and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	Z professional language Z nd use of basic express Z Writing in a simple Z student meets eith	ge) 2 gesinessions of 2 e way about 2 er at school anguage.
2046076 Basic voca 2046077 Mapped to the lev  2046078 Aim: Understandir  2046079 Mapped to the leve or in his/her free 2046080	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.  German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p  German - Beginners rel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).  German - Lower Intermediate Course reg 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.  German - Lower Intermediate Course reg 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. Improvement German - Upper Intermediate Course	Z professional language Z nd use of basic expressional language Z Writing in a simple Z student meets eith nt of professional language	ge)  2 gesinessions of  2 ressions of  2 reway about  2 er at school anguage.  2
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2046087   French - Lower Intermediate Course Z  Mapped to the level of Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which a student meets a 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 2046088   French - Upper Intermediate Z	2 at school or in
2046088 French - Upper Intermediate Z	
	language.
	2
Understanding standard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability to describe expected events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	eriences and
2046089 French - Upper Intermediate Z	2
Mapped to the level of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students comes across at wo	ork, at school
during free time, and talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understanding general and	
2046090 French - Advanced Z  Comprehension of spoken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participation in discussions.	2 Expressing
opinions. Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical ar	ticles.
2046091 French - Advanced Z Mapped to the level of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on topics familiar to t	2 he student.
Communication with native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and understanding te 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. Writing in a simple control of the con	1
familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046097   Spanish - Beginners   Z  Mapped to the Common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a student meets at	
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	
2046098   Spanish - Lower Intermediate   Z  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	2 about famili
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 student meets at scho free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional languations.	
2046117 Czech -Advanced Z	2
Comprehension of spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discussions. Exprewritten skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical articles	ssing opinion
2046118 Czech -Advanced Z	2
Vapped to the level of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech without great	ı
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-s scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	
	1 0
2046119   Czech Language for Beginners I. Z  Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language)	2
2046120 Czech Language for Beginners II. Z	2
Mapped to the Common European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding and use of bas	
of general scientific terminology (professional language).	
2046125   Czech Lower Intermediate Z  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 sim	2 ple way abou
familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046126   Czech Lower Intermediate   Z 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 sim	2 ple way abou
familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046127 Czech - Upper Intermediate Z	2
Understanding standard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability to describe experiments events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	eriences and
2046128 Czech - Upper Intermediate Z	2
Mapped to the Common European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Czech and commo terminology. Comprehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate level. Bro	-
knowledge technical language.	
2046135 Russian - Beginners Z  Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional lang	2 (uage)
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 basi	1
of general scientific terminology (professional language)  2046137 Russian - Lower Intermediate Course Z	
Inderstanding 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	2 about familia
topics. Reading and comprehension of simple texts. Improvement of professional language.	-
2046138 Russian - Lower Intermediate Course Z  Mapped to the level of Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a student meets at scho	
free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language	guage.
	2
2046139 Russian - Upper Intermediate Z	ariancae and
Understanding standard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability to describe exp	2
Understanding standard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability to describe expevents, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	2 school, during

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Appeld to the local of Common European Framework of references III -12 Comprehensive in Stage and as features in Russian on topics brailists to the statest.  Zeromanication with native speakers, participation in discussorie. Expressing optionies. Writen editals. Altility to write an easily or report. Reading and understanding texts concerning counted access and popular section and deciding and articles.  Zeromanication with native speakers, participation in discussorie. Expressing optionies. Writen editals. Altility to write an easily or report. Reading and understanding texts concerning common access and popular section and deciding and articles.  Zeromanication of the program of the pr	•			
Aspects to the level of Common European Farmerous of references fill - 12 Comprehension of special ranguage as well as between Reason on object familiar to the students of Common (Common Common Indicated and papellar scenario description).  2046155				
Communication with native sealesters, participation in discussions. Excressing optimises. Writers stalls a bility to write an easily or export. Reading and understanding leasts concerning 2046156   English Conversation growing communicative will bility speaking on general local and general learning laptons.  2046161   Proporting deministration belief in speaking on general local and general learning laptons.  2046162   Proporting deministration belief in speaking on general local and general learning laptons.  2046162   Proporting deministration belief in speaking on general local stalls in speaking on general local stall in speaking of general local stalls in speaking on general local stalls in speaking stalls in speaking on general local stalls in speaking stalls in spe			_	
current issues and popular coloration definition definition.    Configency   Company				
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Improving communicative sellar in speaking or general scores and general scrimical topics.    Properties of Improving communicative sellar in speaking or general scores and general scornical topics.   Preparating students as present in English or suchrivat tegsits, with a possible on-operation with speakidured departments.   Properties of Properties of Properties of the	0040455			
English Conversation   Z   2   2   2   1   1   1   1   1   1   1	2046155		Z	2
Improving communicative salies in speaking on general speak and general subminist lopics.  2 2 2  2046162 Preparing students to present it English on subminist lopics, with a possible co-ceration with specialized departments.  2 2 2  2046163 Preparation for presenting terrhoral topos in German possibly in cooperation with specialized departments.  2 2 2  2046164 Preparation for presenting terrhoral topos in German possibly in cooperation with specialized departments.  2 2 2  2046165 Preparation for presenting terrhoral topos in German possibly in cooperation with specialized departments.  2 2 2  2046166 Preparation for presenting terrhoral topos in Russian possibly in cooperation with specialized departments.  2046166 Preparation for presenting terrhoral those in Spanish, possibly in cooperation with specialized departments.  2046166 Preparation for presenting terrhoral those in Spanish, possibly in cooperation with specialized departments.  2046166 Preparation for presenting terrhoral those in Spanish, possibly in cooperation with specialized departments.  2046166 Preparation for presenting terrhoral topics in Spanish, possibly in cooperation with specialized departments.  2 1 12091 Preparating students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 1 2 121001 Preparating students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 1 2 121001 Preparating students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 2 2 121001 Preparating students to give presentations in English on technical topics and interferent presentations on the specialized departments.  2 3 4 2 121001 Preparating students to give presentations in English on technical topic present presen				
Preparing students to present a English on schricial stages, with a possible co-operation with specialized departments.   Z   2	2046156		Z	2
Propositing students to prospert in English on bethrical topics, with a possible or operation with specialized departments.  2 2 2  2046163 Proposition for present proposition (arran, possibly in cooperation with specialized departments.)  2 2 2  2046164 Proposition for present proposition (arran, possibly in cooperation with specialized departments.)  2 2 2  2046165 Proposition for present proposition in Russian (arrange) in Cooperation with specialized departments.  2 2 2  2046166 Proposition for presenting technical topics in Russian (arrange) in Cooperation with specialized departments.  2 2 2  2046166 Proposition for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2  2046166 Proposition for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2  2046166 Proposition for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2  2 2  2 3 2  2 4 2  2 4 2 2  2 4 2 2  2 1 2 2 2  2 2 2 2  2 3 2 3 3 3 3 3 3 3 3 3		Improving communicative skills in speaking on general topics and general technical topics.		
Preparation for presenting technical topics in Comman, possely in cooperation with specialized departments.  2   2   2   2   2   2   2   2   2   2	2046161	Presentations in English	Z	2
Preparation for presenting technical tapics in German, possibly in cooperation with specialized departments.  2 2 2  2046164	•	Preparing students to present in English on technical topics, with a possible co-operation with specialized departments.		'
Preparation for presenting technical tapics in German, possibly in cooperation with specialized departments.  2 2 2  2046164	2046162	Presentations in German	Z	2
Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.    2   2	1	Preparation for presenting technical topics in German, possibly in cooperation with specialized departments.		Į.
Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.    2   2	2046163	Presentations in French language	7	2
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Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.  2 2 2  2046186 Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2  2046186 Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2  2112091 Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 1212003 Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 1212003 The Transport of the Course deal with a tabasic engineering approach to classical thermodynamics, heat transfer and compressible flow through nozzles and diffusers. Basic concepts and principles are introduced, and they are applied mostly to systems behaving as ideal gases or typical vapours. Basic notions associated with ideal mixtures are studied with an emphasis or psychrometrics. The current of the studies of the course of the studies of the course of the studies of the studies.  2121500 Final flow of the studies of t	2046164		7	2
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Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.  2 2 2 Preparating students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2 3 4 2112003	0040405			
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The passing students to give presentations in English on technical topics, with a possible co-operation with specialized departments.  2112003  The Project The course deal with a basic engineering approach to classical thermodynamics. Beat renative and compressible flow through nozzles and diffusers. Beatic connection and radiation. These transfers are studied with an emphasis on psychometrics. Heat transfer covers fundamentals of conduction, convection and radiation. These exchangers are treated as an engineering application and include with an emphasis on psychometrics. Heat transfer covers fundamentals of conduction, convection and radiation. These exchangers are treated as an engineering application. Exceptions and the passing of the program	00.5.5			
Project   Project   Racelor Thesis   Z   4   2113991   Bachelor Thesis   Z   4   4   2121023   The course deal with a basic engineering approach to classical thermodynamics, heat transfer and compressible flow through nozzles and diffuses. Basic concepts and principles are introduced, and they are applied mostly to systems behaving as ideal gases or typical vapours. Basic notions associated with ideal mixtures are studied with an emphasis on psychometrics. Heat transfer covers fundamentals of conduction, convection and radiation. Heat exchangers are treated as an engineering application Exercises and labs are devoted to practical problems and experimental technique.  2121500   Fullid Dynamics   Fullid Dynamics   Fullid Dynamics   Z,ZK   5   5   5   5   5   5   5   5   5	2046166			2
Bachelor Thesis   Z   4   2121023   Thermodynamics   Z   4   5   The course deal with a basic engineering approach to classical thermodynamics, heat trainfer and compressible flow through nozzies and diffusers. Beaic concepts and principles are introduced, and they are applied mostly to systems behaving as ideal gases or typical vapours. Beaic notions associated with indeal mixtures are studied with an emphases on psychometrics. Heat trainfer covers fundamentals or conduction, convection and radiation. Heat exchangers are releated as an emplementing application. Exercises and labs are devoted to practical problems and experimental technique.    Private		Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departme		
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2121023 The course deal with a basic engineering approach to classical thermodynamics, heat transfer and compressible flow through nozzies and diffusers. Basic concepts and principles are introduced, and they are applied mostly to systems behaving as ideal gases or typical vapours. Basic notions associated with ideal mixtures are studied with an emphasis on psychometrics. Heat transfer covers fundamentals of conduction, convection and radiation. Heat exchangers are treated as an engineering application. Exercises and labs are devoted to practical problems and experimental technique.  2121500 Filuid Dynamics The basic course in fluid dynamics deals with fundamental laws of hydrostatics and hydrodynamics and their application on the basic problems, as 10 flow in ducts, estimation or pressure losses, simplified solution of unsteady flow. Basic information on more complicated problems (faminar and turbulent flow, boundary layer theory, flow separatricin) are introduced as well.  2122091 Department Project The content of the subject is given by the topic of baschelor work after consultion with supervisor of bachelor work or the tutor of the department.  2123991 Bachelor Thesis Z 4 212A023 Thermodynamics A Thermodynamics A Thermodynamics A Thermodynamics A Thermodynamics are treated as an engineering application. Exercises and labs are devoted by practical problems and experimental technique.  212A500 The basic course in fluid dynamics deals with fundamental laws of hydrostatics and hydrodynamics and their application on the basic problems, as 10 flow in ducts, estimation of pressure losses, simplified solution on unsteady flow. Basic information on more complicated problems and experimental technique  212A500 The basic course in fluid dynamics deals with fundamental laws of hydrostatics and hydrodynamics and their application on the basic problems, as 10 flow in ducts, estimation of pressure losses, simplified solution on unsteady flow. Basic information on more complicated problems flaminar and turbulent flow, boun	2113991	Bachelor Thesis	Z	4
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2332091   Project   KZ   2		Development of the bachelor thesis on an assignment under the supervision.  Technology I.  of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of form	Z,ZK ning processes. Ser	5
	Foundry properties	Development of the bachelor thesis on an assignment under the supervision.  Technology I.  of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of form heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brazing. Surface treatment	Z,ZK ing processes. Ser s.	5 mi-products,

2333038	Fundamentals of Technology I.	Z	3
Production proce	esses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, techn	nical metals. Produ	action of pig
	asting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming tech		
Free and drop	forging. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of weld	ding. Fusion weldi	ng: Flame
	welding and arc welding with coated electrodes. Thermal cutting.		Т
2333991	Bachelor Thesis	Z	4
2341014	Technology II.	Z,ZK	5
mechanics of chip	formation, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining econor	nics. Automation o	of processes,
	programming of manufacture. Engineering metrology. Assembly techniques. Introduction to process planing.		_
2342091	Project	KZ	2
	Work on specialized tasks.		
2352091	Specialization Project	KZ	2
2353991	Bachelor Thesis	Z	4
The course focus	es on processing the final thesis within the scope of the assigned topic of the bachelor thesis. The student is acquainted with the genei	ral principles of th	e final thesis
and during regul	lar weekly consultations with the supervisor proceeds in the professional solution of the assigned problem and at the same time works	on the actual text	of the final
	thesis. In the course of the solution, the student completes a small oral presentation where the work in progress is presente	d.	
2362091	Project	KZ	2
2363991	Bachelor Thesis	Z	4
2371047	Automatic Control	Z,ZK	5
Automatic contro	ollers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automati	ic control theory a	nd practice
like transfer functi	ons, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentral	tes on logic contro	and control
via programma	ble logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained.	Students begin to	work with
	MATLAB software as a common platform of control engineers.		
2372041	Computer Support for Study	KZ	3
The course introd	uces students into creating technical and professional documents on computers or Web and into realizing technical computations with	he use of compute	rs. Students
gain practi	cal skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical	cal-based WWW	page.
2372083	Measurement in Engineering	KZ	3
Overview of se	nsor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and	verification of mea	surement
	instruments.		
2372091	Project	KZ	2
	An individual project from the branch of specialisation, which student will study on his/her magister level		
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	elor thesis.	'
2381054	Management and Economics of the Enterprise	Z,ZK	4
The course is des	signed to give students the understanding of economic principles. The economical part of the course is consisted from: explanation of r	elationship betwe	en costs and
revenues, expen	ses and income, concept of investment and calculations per product, presentation how to assemble a basic operating budget and expl	anation of the bas	
of the financial st	atements. The management introduces the basic managerial functions and their contents, the uses of network analysis in project man		ic structure
		agement, with the	
	of multi-criteria decision, the basics of marketing and strategic management.	agement, with the	
2382091	of multi-criteria decision, the basics of marketing and strategic management.  Specialization Project	agement, with the	
2382091 2383001	<u> </u>		application
2383001	Specialization Project	KZ Z	application 2
2383001 Basic orientation	Specialization Project Fundamentals of Law	KZ Z le a view into the 0	application  2  2  Czech Legal
2383001 Basic orientation Order, particular	Specialization Project Fundamentals of Law in legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provide	KZ Z e a view into the 0 ecessary for stude	2 2 Czech Legal ents to know
2383001 Basic orientation Order, particular our legal institut	Specialization Project Fundamentals of Law in legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid sources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no ions, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws. know some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relation	KZ Z e a view into the 0 ecessary for stude At the same time	2 2 2 Czech Legal ents to know the course
2383001 Basic orientation Order, particular our legal institut	Specialization Project Fundamentals of Law in legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid sources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no ions, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws.	KZ Z e a view into the 0 ecessary for stude At the same time ships and to make	2 2 2 Czech Legal ents to know the course
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Bachelor Thesis
Work on specialized tasks related to the focus of a thesis.