Study plan

Name of study plan: 05 40 45 46 DSTR TZP 2012 K základ

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

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

Required credits: 102

Elective courses credits: 136 Sum of credits in the plan: 238

Note on the plan: SP12BSTR-TZP-K # první pokus

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 60

The role of the block: P

Code of the group: 12BS*7P-TZP

Name of the group: 12 2012 BSTR 7.sem povinné TZP

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 30 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
2151158	Principles of Refrigerating Technology and Heat Pumps	Z,ZK	5	2P+2C	*	Р
2161596	Fundamentals of Heating	Z,ZK	5	3P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BS*7P-TZP Name=12 2012 BSTR 7.sem povinné TZP

		P	
2151158	Principles of Refrigerating Technology and Heat Pumps	Z,ZK	5
2161596	Fundamentals of Heating	Z,ZK	5
Basic knowledge acquis	sition from the field of heating of residential and industrial buildings. Designing of convective and radiant heating systems.		·

Code of the group: 12BS*8P-TZP

Name of the group: 13 2012 BSTR 8.sem povinné TZP

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 30 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
2162023	Basics of alternative energy sources	KZ	4	2P+2C+0L	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BS*8P-TZP Name=13 2012 BSTR 8.sem povinné TZP

	<u> </u>		
2162023	Basics of alternative energy sources	KZ	4
Principles and basics of	alternative energy sources applications. Solar energy. Heat pumps. Biomass utilization.		

Code of the group: 12DSK1P-KMEN

Name of the group: 00 2012 D kmenové 1. semestr STR kombinované

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

Credits in the group: 0

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
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
2011021	Constructive Geometry Ivana Linkeová	Z,ZK	6	3P+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
2372041	Computer Support for Study Vladimír Hlavá	KZ	3	1P+1C	*	Р
K333038	Fundamentals of Technology I.	Z	3	8B	*	Р

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 prope	rties of matter, the	modynamics,
phase equilibrium,	chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and bio	chemistry. Laborato	ory practice is
oriented upon the n	material properties measurement.		
2011021	Constructive Geometry	Z,ZK	6
The subject is focus	sed on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.		'
2011056	Mathematics I	Z,ZK	8
In the course, great	ter emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and conn	ections between co	oncepts. Students
	iter emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and conn or the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic ar		•
will also get to know	·		•
will also get to know	v the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic ar		•
will also get to know of a matrix, Taylor p 2372041	with the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic are polynomial, integral as a limit function, integration of some special functions.	reas: eigennumbers	and eigenvectors
will also get to know of a matrix, Taylor p 2372041 The course introduc	with procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic and polynomial, integral as a limit function, integration of some special functions. Computer Support for Study	eas: eigennumbers KZ with the use of cor	and eigenvectors 3 nputers. Students
will also get to know of a matrix, Taylor p 2372041 The course introduc	with procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic and polynomial, integral as a limit function, integration of some special functions. Computer Support for Study increased and professional documents on computers or Web and into realizing technical computations.	eas: eigennumbers KZ with the use of cor	and eigenvectors 3 nputers. Students
will also get to know of a matrix, Taylor p 2372041 The course introduc gain practical skills K333038	with procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic and polynomial, integral as a limit function, integration of some special functions. Computer Support for Study access students into creating technical and professional documents on computers or Web and into realizing technical computations by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical computations.	KZ with the use of corcal-based WWW pa	and eigenvectors 3 nputers. Students ige. 3
will also get to know of a matrix, Taylor p 2372041 The course introduc gain practical skills K333038 Production process	whe procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic and polynomial, integral as a limit function, integration of some special functions. Computer Support for Study access students into creating technical and professional documents on computers or Web and into realizing technical computations by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical Fundamentals of Technology I.	KZ with the use of corcal-based WWW pa	and eigenvectors 3 nputers. Students ige. 3 roduction of pig
will also get to know of a matrix, Taylor p 2372041 The course introduction practical skills K33038 Production process iron and steel. Cast	whe procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic and polynomial, integral as a limit function, integration of some special functions. Computer Support for Study It is seen to creating technical and professional documents on computers or Web and into realizing technical computations is by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical functions in engineering production. Technology I. Sees in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron,	KZ with the use of corcal-based WWW pa Z technical metals. Pg technology. Hot al	and eigenvectors 3 nputers. Students ige. 3 roduction of pig nd cold forging.

Code of the group: 12DSK2P-KMEN

Name of the group: 00 2012 D kmenové 2. semestr STR kombinované

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

Credits in the group: 0 Note on the group:

12B**2P-KMEN#

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
2021041	Physics I.	Z,ZK	7	4P+1L	*	Р
2011062	Matematika II. Radka Keslerová	Z,ZK	8	4P+4C	*	Р
2322029	Materials Science I. Jana Sobotová, Eliška Gal íková, Ji í Cejp, Pavlína Hájková, Jan Kr il, Vladimír Mára, Lucie Pilsová, Ta ana Vacková Jana Sobotová Jana Sobotová (Gar.)		3	2P+1L	2	Р
2012037	Computer Graphics Marta Hlavová, Ji í Holman, Nikola Pajerová, Martin Hanek, Jan Karel, Ivana Linkeová, Jaroslav Cibulka Ivana Linkeová Ivana Linkeová (Gar.)	KZ	3	1P+1C	*	Р
2131002	Engineering Design II Eliška Cézová, Jan Flek, Jan Kanaval, Karel Petr, Martin Dub, Martin Havlí ek, Jan Hoidekr, František Lopot, Roman Uhlí Karel Petr Karel Petr (Gar.)	Z,ZK	4	2P+3C	2	Р

Characteristics of the courses of this group of Study Plan: Code=12DSK2P-KMEN Name=00 2012 D kmenové 2. semestr STR kombinované

2021041 Physics I. Z,ZK Kinematics and dynamics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic properties of bodies. Oscillations, waves. Fluid mechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Conductors, semiconductors, insulators. Magnetic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indirect measurements, regression, measurements of 11 various experiments related to the lectures.

 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. 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-Ostrogradskii theorem.

2322029 Materials Science I.

Z

History and present state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, deformation, recrystallization and fracture of materials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, iron-carbon phase diagram.

0.10.1000 F : : B : !!	2012037	Computer Graphics	KZ	3
2131002 Engineering Design II Z,ZK 4	2131002	, , ,	Z,ZK	4

Principles of ISO GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface texture, geometrical tolerance, dimensional loops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice their knowledge from lectures.

Code of the group: 12DSK3P-KMEN

Name of the group: 00 2012 D kmenové 3. semestr STR kombinované

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

Credits in the group: 0

Note on the group:

12B**3P-KMEN #

Note on the grot	·					
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
2021025	Physics II.	Z,ZK	4	1P+2L	3	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. Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Pavel Steinbauer, Zbyn k Šika, Zbyn k Šika Zbyn k Šika (Gar.)	Z,ZK	4	2P+2C	*	Р
2321039	Materials Science II. Jana Sobotová, Eliška Gal íková, Ji í Cejp, Pavlína Hájková, Jan Kr il, Vladimír Mára, Lucie Pilsová, Ta ana Vacková, Jan Walter, Jana Sobotová Jana Sobotová (Gar.)	Z,ZK	4	2P+2L	*	Р
2133013	Engineering Design III. Jan Kanaval, Jan Hoidekr, František Lopot, David Skalický, Roman Uhlí Jan Kanaval Jan Kanaval (Gar.)	Z	2	0P+2C	Z	Р
2012035	Algorithmization and Programming Fundamentals Ji i Holman, Marta ertiková, Vladimír Hric, Lukáš Hájek, Jan Halama, Vladimír Prokop, Martin Hanek, Jan Karel, Josef Musil, Petr Svá ek Petr Svá ek (Gar.)	1 11/2	4	1P+2C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12DSK3P-KMEN Name=00 2012 D kmenové 3. semestr STR kombinované 2021025 Physics II. Z,ZK 4

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.

2011009 | Mathematics III

An introductory course in ordinary differential equation and infinite series.

2311101 | Mechanics I. | Z,ZK | 4

Mechanics I deals with the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their systems with and without friction.

Mechanics I deals with the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their systems with and without friction. There are introduced the methods of description of position and motion of particles and rigid bodies.

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 and thermo-mechanical processing,

Fundamentals of metallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and thermo-mechanical processing technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materials.

2133013 Engineering Design III.

Z 2

Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)

2012035 Algorithmization and Programming Fundamentals KZ 4

Programming in MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matrices, vectors and operations. Writting M-script. Input and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Systems of linear equations. Scripts and functions. Structure of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. Structures. Algorithmization of simple programs: minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of systems of linear equations.

Code of the group: 12DSK4P-KMEN

Name of the group: 00 2012 D kmenové 4. semestr STR kombinované

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

12B*K4P-KMEN #

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
2311102	Mechanics II. Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Pavel Steinbauer, Zbyn k Šika, Václav Bauma Václav Bauma (Gar.)	Z,ZK	4	2P+2C	*	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
2133014	Engineering Design IV. František Lopot František Lopot (Gar.)	Z	2	0P+2C	L	Р
K331068	Technology I	Z,ZK	5	16B	*	Р

Characteristics of the courses of this group of Study Plan: Code=12DSK4P-KMEN Name=00 2012 D kmenové 4. semestr STR kombinované

2311102 Mechanics II.

Kinematics of point and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar motion, spherical motion, screw motion, general spatial motion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and vector method. Graphical methods in kinematics. Basic theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms.

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 ordinary differential equations, initial and boundary value problems. Numerical solution of basic linear partial differential equations by finite difference method.

 2133014
 Engineering Design IV.
 Z
 2

 K331068
 Technology I
 Z,ZK
 5

Foundry properties of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of forming processes. Semi-products, heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brasing. Surface treatment.

Code of the group: 12DSK5P-KMEN

Name of the group: 00 2012 D kmenové 5. semestr STR kombinované

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

Credits in the group: 0

Note on the group: 12B*K5P-KMEN #

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
2131512	Machine Elements and Mechanisms I. František Lopot	Z,ZK	6	3P+2C	*	Р
2141504	Electric Circuits and Electronics Stanislava Papežová, Jan Chyský, Jaroslav Novák, Lukáš Novák Zuzana Sedlecká Jan Chyský (Gar.)	Z,ZK	4	2P+06C+1.4L	*	Р
2372083	Measurement in Engineering Martin Novák, Vladimír Hlavá Martin Novák Martin Novák (Gar.)	KZ	3	1P+0C+2L	*	Р
K341014	Technology II.	Z,ZK	5	8KP+8KC	*	Р
2153005	Fundamentals of Energy Conversions	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=12DSK5P-KMEN Name=00 2012 D kmenové 5. semestr STR kombinované

2131512	Machine Elements and Mechanisms I.	Z,ZK	6						
Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions									
(belt, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded connecting bolts, clamped,									
pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable									
seminar work.									

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 accumulators of energy. El. Power and Energy. Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.

2372083	Measurement in Engineering	KZ	3				
Overview of sensor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and verification of measurement							
instruments.							

K341014	Technology II.	Z,ZK	5
2153005	Fundamentals of Energy Conversions	Z	1

2383001 Fundamentals of Law

Basic orientation in legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provide a view into the Czech Legal Order, particular sources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is necessary for students to know our legal institutions, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws. At the same time the course leads students to know some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relationships and to make them ready to prepare professional presentations and to understand basic structures between law and engineering

Code of the group: 12DSK6P-KMEN

Name of the group: 00 2012 D kmenové 6. semestr STR kombinované

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

Credits in the group: 0

Note on the group.

12R**6P_KMEN #

note on the group), 12D 0F-1	KIVILIN #				
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
2131026	Machine Elements and Mechanisms II Eliška Cézová, Jan Flek, Jan Kanaval, Karel Petr, Zden k ešpíro, Martin Dub, František Lopot, Ji í Houkal František Lopot František Lopot (Gar.)	ZK	3	3P+0C	*	Р
2141505	Electrical machines and drives Jan Chyský, Jaroslav Novák, Lukáš Novák Jaroslav Novák Jaroslav Novák (Gar.)	Z,ZK	4	2P+06C+1.4L	*	Р
2133025	Design František Lopot František Lopot (Gar.)	Z	4	0P+4C	*	Р
2381054	Management and Economics of the Enterprise Theodor Beran, Št pánka Uli ná, Vladimír Brdek, Ladislav Vaniš, Petr Žemli ka Theodor Beran Theodor Beran (Gar.)	Z,ZK	4	2P+2C	*	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

Characteristics of the courses of this group of Study Plan: Code=12DSK6P-KMEN Name=00 2012 D kmenové 6. semestr STR kombinované

Automatic Control 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 and 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.

2131026 Machine Elements and Mechanisms II 7K 3

4

Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and fittings.

2141505 Electrical machines and drives

AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, 3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, speed-torque characteristic, speed control. Synchronous machines. DC-machines, principle, parameters, operating conditions, construction, starting, speed control, speed-torque characteristic. Low-voltage instruments Low-voltage distribution system.

2133025 Design Ζ

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

Management and Economics of the Enterprise

The subject is intended to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasoning and to help them understand the basic relationships between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audience to be able to communicate with economists in organizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of products and services. Every technician will encounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the operating budget. In the field of management, they will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project management. For decision-making purposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be introduced.

2181026 Momentum, Mass and Heat Transfer Z,ZK

Fundamentals of transport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanical energy equation. Residence time distributions in continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and thermal radiation. Multicomponent systems. Mass transfer by molecular diffusion, convection, with chemical reactions and interphase mass transfer.

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
2383009	Communication and Dealing with People Vladimír Brdek, Jan Horejc Jan Horejc Jan Horejc (Gar.)	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

2383009 Communication and Dealing with People

Z

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

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

Name of the group: 08 2012 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 Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michele Le Blanc Ilona Šimice (Gar.)	Z,ZK	2	0P+2C	*	PV
2041063	French - Bachelor Exam /FME Michaela Schusová, Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.)	Z,ZK	2	0P+2C	*	PV
2041062	German - Bachelor Exam / FME Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z,ZK	2	0P+2C	*	PV
2041065	Russian - Bachelor Exam / FME Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.)	Z,ZK	2	0P+2C	*	PV
2041064	Spanish - Bachelor Exam / FME Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková Jaime Andrés Villagómez (Gar.)	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

2041061	English-Bachelor Exam	∠,∠K	2
Mapped to the Com	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater dif	ficulties, to take part	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 Com	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater dif	ficulties, to take part	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 Com	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater dif	ficulties, to take part	t 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 Com	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater dif	ficulties, to take part	t 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 Com	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater dif	ficulties, to take part	t 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: 12BS*6Q-OP

Name of the group: 10 2012 BSTR 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:

Student si vybere předmět příslušný oboru, který studuje

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
2372091	Project	KZ	2	0P+2C	*	PV
2362091	Project	KZ	2	0P+2C	*	PV
2152091	Deparmental Project	KZ	2	0P+2C	*	PV
2182091	Project	KZ	2	0P+2C	*	PV

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

2372091	Project	KZ	2			
An individual project f						
2362091	Project	KZ	2			
2152091	Deparmental Project	KZ	2			
2182091	Project	KZ	2			
Absolvent se seznám	Absolvent se seznámí se základy oboru Procesní technika.					

Code of the group: 12BS*6Q-PP

Name of the group: 11 2012 BSTR 6. sem prezentace projekt

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:

2363091 nesepsán Student si vybere předmět příslušný oboru, který studuje

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
2153091	Presentation of Project	Z	4	4B	*	PV
2363091	Project Presentation	Z	4	4B		PV
2373091	Project presentation	Z	4	4B	*	PV
2183091	Project Presentation Tomáš Jirout	Z	4	0P+4C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12BS*6Q-PP Name=11 2012 BSTR 6. sem prezentace projekt

2153091	Z	4				
2363091	Z	4				
2373091	Z	4				
Diploma thesis or bach	elor work presentation. Student should study the presentation software possibilities and proposition of the department. Studen	nt should prepare	the presentation			
of actual version of his	diploma or bachelor work and present it in the face of the other student. The presentation will continue with discussion. Consi	equently, the work	should be			
presented as a pdf file on a temporal web page.						
2183091	Project Presentation	Z	4			

Name of the block: Elective courses

Preparation and presentation of a given project theme.

Minimal number of credits of the block: 32

The role of the block: V

Code of the group: 12BS**V-ALFA

Name of the group: 02 2012 ALFA volitelné pro STR

Requirement credits in the group: In this group you have to gain 32 credits

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

Credits in the group: 32

Předměty typu Alfa (A) nejsou u studijního programu B2341 Strojírenství povinné, avšak jsou Note on the group:

povinné u studijního programu B2342 Teoretický základ strojního inženýrství.

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	*	V
202A025	Physics II.A	ZK	2	0P+0C	*	V
201A021	Constructive Geometry A Ivana Linkeová	ZK	3	0P+0C	*	V

201A056	Mathematics I.A Radka Keslerová	ZK	4	0P+0C	*	V
201A062	Mathematics II.A Radka Keslerová	ZK	4	0P+0C	*	V
201A009	Mathematics III.A Stanislav Kra mar	ZK	2	0P+0C	*	٧
201A049	Numerical Mathematics A	ZK	2	0P+0C	*	٧

202A041	Physics I.	ZK	3
Kinematics and dyr	amics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic	properties of boo	dies. Oscillation
waves. Fluid mecha	nics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	nductors, semico	nductors,
insulators. Magneti	cfield. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and inc	direct measureme	ents, regression
measurements of 1	1 various experiments related to the lectures.		
202A025	Physics II.A	ZK	2
Faraday's law of ele	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of	electromagnetic v	vaves. Interactio
of radiation with ma	tter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom a	nd periodic syste	m of elements.
Spectra, x-rays, ;las	er. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 e	xperiments relate	d to the lecture
201A021	Constructive Geometry A	ZK	3
The subject is focus	sed on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.		
201A056	Mathematics I.A	ZK	4
Introduction to linea	r algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable		
201A062	Mathematics II.A	ZK	4
Open and closed s	et, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differe	ential operators di	v (divergence)
and curl (rotation). F	unction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integ	ral, Fubini theorer	n. Transformatic
of integrals to polar	cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gr	reen's theorem. A	potential vecto
field independence	of a line integral on the nath. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a ve-	ctor field through	a gurfaga Tha

Gauss-Ostrogradskij theorem.

201A009	Mathematics III.A	ZK	2
201A049	Numerical Mathematics A	ZK	2

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

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, Hynek ezní ek, Olga Majlingová Radka Keslerová Gejza Dohnal (Gar.)	Z	2	0P+2C	1	V

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

2026016	Physics - Seminar	Z	2
The subject is mainly m	eant 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 Ilona Šimice, Michele Le Blanc Ilona Šimice Michele Le Blanc (Gar.)	Z	2	0P+2C	*	V

2046156	English Conversation Ilona Šimice, Michele Le Blanc	Z	2	0P+2C	L	V
2046071	English - Lower Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová	Z	2	0P+2C	L	V
2046070	English - Lower Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046074	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michaele Le Blanc Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046075	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michele Le Blanc Ilona Šimice Ilona Šimice (Gar.)	Z	2	0P+2C	L	V
2046072	English - Upper Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046073	English - Upper Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Ilona Šimice Ilona Šimice (Gar.)	Z	2	0P+2C	L	V
2046068	English - Beginners Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046069	English - Beginners Ilona Šimice, Michaela Schusová, 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	Z	2	0P+2C	L	V
2046117	Jaroslava Kommová Czech -Advanced	Z	2	0P+2C	Z	V
2046127	Jaroslava Kommová Czech - Upper Intermediate		2	0P+2C	Z	V
2046128	Jaroslava Kommová Czech - Upper Intermediate	 Z	2	0P+2C	L	V
	Jaroslava Kommová Czech Language for Beginners I.					
2046119	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 (Gar.) Schusová (Gar.)	Z	2	0P+2C	Z	V
2046087	French - Lower Intermediate Course Michaela Schusová, Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2046091	French - Advanced Michaela Schusová, Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2046090	French - Advanced Michaela Schusová, Dušana Jirovská, Eliška Vítková Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046089	French - Upper Intermediate Michaela Schusová, Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2046088	French - Upper Intermediate Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046084	French - Beginners Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046085	French - Beginners´ Course Michaela Schusová, Dušana Jirovská Michaela Schusová Dušana Jirovská (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 Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046079	German - Lower Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046083	German - Advanced Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V

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

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

kurzy a prezentac	e		
2046155	English Conversation	Z	2
Improving communication	ve skills in speaking on general topics and general technical topics.		
2046156	English Conversation	Z	2
Improving communication	ve skills in speaking on general topics and general technical topics.		
2046071	English - Lower Intermediate	Z	2
Mapped to the Common	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	al language.
2046070	English - Lower Intermediate	Z	2
Aim: Understanding cle	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	em. 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: comprehensio	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
level. Ability to write a s	ummary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's fie	eld of studies withou	out difficulties.
Grammar structures on	advanced level. B1 - B2.		

2046075	English - Advanced	Z	2
	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E	-	
	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	ts from student's field of studies without difficulties. Grammar structures on advanced level.		
2046072	English - Upper Intermediate	Z	2
	nguage skills taking into consideration professional English and common professional terminology. Comprehension of standard	d English speech a	and conversation
	y life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 - B1.		
2046073	English - Upper Intermediate	Z	2
	n European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional En	_	-
knowledge.	nsion of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intern	iediale ievei. Broa	dening grammar
2046068	English - Beginners	Z	2
	English - Degitiners of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p		
2046069	English - Beginners	7	2
	ր Errigiish - Degriffiers n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understan	_	
	minology (professional language).	ang and doo or be	acio expressione
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	. – .	
_	and comprehension of simple texts. Improvement of professional language.	· ·	. ,
2046125	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	ı ∍m. Writing in a sir	nple way about
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language.		
2046118	Czech -Advanced	Z	2
Mapped to the level of	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in C	Zzech without grea	at difficulties and
active participation in a	discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehen	sion of popular-sc	eientific and
	s from student's field of studies without difficulties. Grammar structures on advanced level.		
2046117	Czech -Advanced	Z	2
i i	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. Abili	ty to describe exp	eriences and
	ne's opinions and plans. Reading and understanding general and technical texts.		
2046128	Czech - Upper Intermediate	Z	2
	n European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional		-
knowledge technical la	nsion of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on inter	mediate level. Bro	adening the
2046119	Czech Language for Beginners I.	Z	2
	pozectifically days for Degittiers 1. Bryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes	_	
2046120	Czech Language for Beginners II.	7	2
	n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understan		
	minology (professional language).	ang and acc or a	acio expressione
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. Wr	1	
	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 which	a student meets	at school or in
his/her free time and sp	peaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	iguage.
2046091	French - Advanced	Z	2
Mapped to the level of	Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to	pics familiar to the	student.
	tive speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading an	nd understanding	texts concerning
	ular scientific and technical articles.		
2046090	French - Advanced	Z	2
	ken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participatio		Expressing
	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te		
2046089	French - Upper Intermediate	Z	2
	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students c		
	Iking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa		
2046088	French - Upper Intermediate	Z	2
_	d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abili one´s opinions and plans. Reading and understanding general and technical texts.	ly to describe exp	enences and
2046084		Z	2
	French - Beginners vhat is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wr	1	
	mprehension of simple texts. Improvement of professional language.	ing in a cimple in	ay about lammar
2046085	French - Beginners' Course	Z	2
	Preficit - Degriffers' Course Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which	1	
	peaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2146060	Indonesian Language Course for Exchange	Z	2
	nguage for Student Exchange Program to Indonesia		
2146061	Technical Indonesian - Course I.	Z	2
	ian Language for Student Exchange Program to Indonesia	· '	<u> </u>
2144062	Technical Indonesian - Course II.	Z,ZK	3
Basic of Indonesian La	nguage for Student Exchange Program to Indonesia		

	German - Lower Intermediate Course	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 sim	nple way about
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language.		
2046079	German - Lower Intermediate Course	Z	2
Mapped to the level of	Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	h a student meets	either at school
	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvemen	nt of professional	
2046083	German - Advanced Course	Z	2
	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in		-
	in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compre	ehension of popula	ar-scientific and
	s from student's field of studies without difficulties. Grammar structures on advanced level.		
2046082	German - Advanced Course	Z	_ 2
	ken language as well as lectures in German on topics familiar to the student. Communication with native speakers, participation		Expressing
	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te		
2046081	German - Upper Intermediate Course	Z	2
	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students or Iking about these topics. Ability to describe experiences and events, explain one´s opinions and plans. Reading and understa		
2046080		T 7	
	German - Upper Intermediate Course dispeech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abilit	ty to describe exp	2 prioness and
_	ne's opinions and plans. Reading and understanding general and technical texts.	ty to describe expe	enences and
2046076	German - Beginners	Z	2
	ryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profess	. – .	2
2046077		7	2
	German - Beginners mmon European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding	and use of basic of	
1	nimon European Framework of Reference AT Basic vocabulary of everyday life in a written and spoken form. Orderstanding nology (professional language).	and doe of basic t	mprossions of
2046161	Presentations in English	Z	2
	resent in English on technical topics, with a possible co-operation with specialized departments.		-
2046166	Presentations in Czech	Z	2
	ive presentations in English on technical topics, with a possible co-operation with specialized departments.		2
2046162	Presentations in German	Z	2
	resentations in German ing technical topics in German, possibly in cooperation with specialized departments.		2
2046164	Presentations in Russian	Z	2
	resentations in Russian		2
2046163	Presentations in French language	Z	2
	resentations in French ranguage ingle technical topics in French, possibly in cooperation with specialized departments.		2
2046165		Z	2
	Presentations in Spanish ing technical topics in Spanish, possibly in cooperation with specialized departments.		2
2046137			_
			2 1
	Russian - Lower Intermediate Course	Z	2 av about familiar
Understanding clearly v	vhat is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wri	. – .	_
Understanding clearly values topics. Reading and contact topics.	what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wri	iting in a simple wa	ay about familiar
Understanding clearly vertopics. Reading and con 2046138	vhat is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language. Russian - Lower Intermediate Course	iting in a simple wa	ay about familiar
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Understanding clearly values. Reading and coll 2046138 Mapped to the level of the time and speaking	what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wrimprehension of simple texts. Improvement of professional language. Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a stuabout them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profes	iting in a simple wa	ay about familiar 2 lool or in his/her
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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 ons.	6
2011049	Numerical Mathematics	Z,ZK	4
Numerical solution	of systems of linear equations, iterative methods. Numerical solution of nonlinear algebraic equations. Least squares method. 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
_	ter 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 E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differenti		-
, ,	Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,		
1 -	r, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Green	· · · · · · · · · · · · · · · · · · ·	
·	ce of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector Gauss-Ostrogradskij theorem.		
2012035	Algorithmization and Programming Fundamentals MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matri	KZ	4
	iput 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		
simple programs	s: minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of s	systems of linear e	quations.
2012037	Computer Graphics	KZ	3
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	ZK	3
201A049	Numerical Mathematics A	ZK	2
201A056	Mathematics I.A	ZK	4
20171000	Introduction to linear algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable		' '
201A062	Mathematics II.A	ZK	4
	set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differentiability is a set of the		
	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		
	ce of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector	· · · · · · · · · · · · · · · · · · ·	
	Gauss-Ostrogradskij theorem.		
2021025	Physics II.	Z,ZK	4
	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elec latter. 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
-	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		
insulators. Magnet	ic 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.	ci measurements,	regression,
2026016	Physics - Seminar The subject is mainly meant for high-school students for repetition of high-school physics.	Z	2
202A025	Physics II.A	ZK	2
	ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elec		
	natter. 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 experies L		
202A041	Physics I. namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic pro	ZK nerties of hodies	Scillations
1	echanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	•	
insulators. Magnet	ic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire	ct measurements,	regression,
0041001	measurements of 11 various experiments related to the lectures.	7 71/	
2041061	English-Bachelor Exam	Z,ZK	discussions
	Imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2041062	German - Bachelor Exam / FME	Z,ZK	discussions
iviapped to the Corr	Imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	ies, io iake pari in (aiocuooiUHS,

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 to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	ies, to take part in o	discussions,
2041064	Spanish - 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 difficulto to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	ies, to take part in o	discussions,
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	,	discussions,
2046068	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level. English - Beginners	7	2
	abulary of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p	_	
2046069	English - Beginners	Z	2
Mapped to the Cor	mmon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language).	g and use of basic of	expressions
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
2046071	familiar topics. Reading and comprehension of simple texts. Improvement of professional language. A1 - A2. English - Lower Intermediate	Z	2
	mmon European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which a		
	e time and speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improvement	nt of professional la	
2046072 The aim is to exten	English - Upper Intermediate Id language skills taking into consideration professional English and common professional terminology. Comprehension of standard En	Z glish speech and c	2 conversation
- The diff is to exten	about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2	-	
2046073	English - Upper Intermediate	Z	2
1	ommon 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	=	
	knowledge.		
2046074	English - Advanced	Z	2
1	hension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Writter ite a summary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student´s field		
,	Grammar structures on advanced level. B1 - B2.		
2046075	English - Advanced	Z	2
1	ommon European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in En pation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and compreher	-	
	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.		
2046076	German - Beginners abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	Z Z	2
2046077	German - Beginners	Z	2
Mapped to the lev	vel Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an	d use of basic exp	ressions of
2046078	general scientific terminology (professional language). German - Lower Intermediate Course	Z	2
	ng 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.		
2046079	German - Lower Intermediate Course el of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	Z student meets eith	2 er at school
	e time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement		
2046080	German - Upper Intermediate Course	Z	2
Understanding st	andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	to describe experie	ences and
2046081	German - Upper Intermediate Course	Z	2
1 ''	vel of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students com		
2046082	nd talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understanding German - Advanced Course	ng general and tech	nnicai texts.
	of spoken language as well as lectures in German on topics familiar to the student. Communication with native speakers, participatio	n in discussions. E	
	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a		
2046083 Mapped to the leve	German - Advanced Course el of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in Ge	Z erman without grea	2 at difficulties
1	ation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehe	_	
2040004	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	7	0
2046084 Understanding clea	French - Beginners arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	Z in a simple way at	2 cout familiar
_	topics. Reading and comprehension of simple texts. Improvement of professional language.	, ., .,	
2046085	French - Beginners' Course	Z	2
1	vel of Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which a ne and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2046086	French - Lower Intermediate Course	Z	2
Understanding clea			
	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	in a simple way at	oout familiar
2046087	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing topics. Reading and comprehension of simple texts. Improvement of professional language. French - Lower Intermediate Course	in a simple way at	oout familiar 2
Mapped to the lev	topics. Reading and comprehension of simple texts. Improvement of professional language.	Z student meets at s	2 chool or in

2046088	French - Upper Intermediate	Z		2
	• •	_	1	
Understanding sta	andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	to describe experi	ences	and
	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	_		_
2046089	French - Upper Intermediate	Z	l .	2
Mapped to the leve	el of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students con	nes across at work	, at sc	hool,
during free time, an	d talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understandi	ng general and tec	hnical	texts.
2046090	French - Advanced	Z		2
Comprehension	of spoken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participatior	in discussions. Ex	xpress	ing
opinions. V	Vritten skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a	and technical articl	es.	
2046091	French - Advanced	7		2
	evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to	. –	l .	
	n native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and u			
Communication with	currant issues and popular scientific and technical articles.	inderstanding texts	COLIC	Jiiiiig
20.40000	· ·	7		$\overline{}$
2046096	Spanish - Beginners	Z	l .	2
Aim:Understanding	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	way a	about
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.			
2046097	Spanish - Beginners	Z		2
Mapped to the Co	ommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a s	student meets at so	chool o	or in
his/her free time	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lar	nguage	э.
2046098	Spanish - Lower Intermediate	Z		2
Understanding clear	rly 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 al	bout fa	amiliar
· ·	topics. Reading and comprehension of simple texts. Improvement of professional language.			
2046099	Spanish - Lower Intermediate	Z		2
	opanish - Lower intermediate I of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a studer	_	1	
				15/1161
	nd speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of			_
2046117	Czech -Advanced	Z	l	2
•	spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in dis		ng opi	nions.
Writte	n skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and t	echnical articles.		
2046118	Czech -Advanced	Z		2
Mapped to the level	of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czec	ch without great dif	ficultie	s and
active participation	on in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens	sion of popular-scie	entific a	and
	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.			
2046119	Czech Language for Beginners I.	7		2
	bulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	_	I .	_
		7 - Tolessional langua	· —	2
2046120	Czech Language for Beginners II.			
			l	
	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding	∠ g and use of basic	l	
Mapped to the Com	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language).		expres	ssions
	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding	g and use of basic	expres	
Mapped to the Com	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language).	Z	expres	ssions 2
Mapped to the Com	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate	Z	expres	ssions 2
Mapped to the Com	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Z	expres	ssions 2
Mapped to the Com 2046125 Aim: Understanding 2046126	mon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate	Z Writing in a simple	expres way a	2 about
Mapped to the Com 2046125 Aim: Understanding 2046126	common European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Z Writing in a simple	expres way a	2 about
Aim: Understanding 2046126 Aim: Understanding	Imon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Z Writing in a simple Z Writing in a simple	e way a	2 about 2 about
Aim: Understanding 2046126 Aim: Understanding 2046126 Aim: Understanding	Imon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate	Z Writing in a simple Z Writing in a simple	exprese way a	2 about 2 about 2
Aim: Understanding 2046126 Aim: Understanding 2046126 Aim: Understanding	contact the second state of the second states and speech about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate and speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	Z Writing in a simple Z Writing in a simple	exprese way a	2 about 2 about 2
Aim: Understanding 2046126 Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta	contact the second seco	Z Writing in a simple Z Writing in a simple Z to describe experi	exprese way a	2 about 2 about 2 about 2 and
Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta	czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate	Z Writing in a simple Z Writing in a simple Z to describe experi	exprese way a	2 about 2 about 2 and 2
Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Com	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate amon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz	Z Writing in a simple Z Writing in a simple Z to describe experi	exprese way a ences	2 about 2 and 2 sional
Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Com	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate amon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Czprehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate	Z Writing in a simple Z Writing in a simple Z to describe experi	exprese way a ences	2 about 2 and 2 sional
Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Com	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate amon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz	Z Writing in a simple Z Writing in a simple Z to describe experi	exprese way a ences	2 about 2 and 2 sional
Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Com	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate amon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Czprehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate	Z Writing in a simple Z Writing in a simple Z to describe experi	exprese way a ences professidening	2 about 2 and 2 sional
Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Comterminology. Com 2046135	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one so opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate Tzech - Upper Intermediate Topical Transmework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz prehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate knowledge technical language.	Z Writing in a simple Z Writing in a simple Z to describe experi Z ech and common pediate level. Broad	exprese way a ences	2 about 2 about 2 and 2 sional the
Aim: Understanding 2046125 Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Comterminology. Com 2046135 Basic voca	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate Topical Transport of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz prehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate in the standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate in the standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate in the standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate in the standard Czech speech and conversation about topics of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	Z Writing in a simple Z Writing in a simple Z to describe experi Z eech and common pediate level. Broad	expression ences	2 about 2 about 2 and 2 sional the
Aim: Understanding 2046125 Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Comterminology. Com 2046135 Basic vocal	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate amon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz prehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on interm knowledge technical language. Russian - Beginners bulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	Z Writing in a simple Z Writing in a simple Z to describe experi Z each and common pediate level. Broad	expression and a second	2 about 2 about 2 and 2 sional the 2
Aim: Understanding 2046125 Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Comterminology. Com 2046135 Basic vocal	czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate amon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz prehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on interm knowledge technical language. Russian - Beginners bulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	Z Writing in a simple Z Writing in a simple Z to describe experi Z each and common pediate level. Broad	expression and a second	2 about 2 about 2 and 2 sional the 2
Aim: Understanding 2046125 Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Comterminology. Com 2046135 Basic vocal 2046136 Mapped to the leve	Example of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language). Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate Czech - Upper Intermediate Intermediat	Z Writing in a simple Z Writing in a simple Z to describe experi Z ech and common pediate level. Broad	expression expression and the second expression express	2 about 2 about 2 and 2 sional the 2 sions
Aim: Understanding 2046125 Aim: Understanding 2046126 Aim: Understanding 2046127 Understanding sta 2046128 Mapped to the Comterminology. Com 2046135 Basic vocal 2046136 Mapped to the lever	Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Lower Intermediate g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability events, briefly explain one's opinions and plans. Reading and understanding general and technical texts. Czech - Upper Intermediate mon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz prehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on interm knowledge technical language. Russian - Beginners bulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language) Russian - Beginners et of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanding of general scientific terminology (professional language) Russian - Lower Intermediate Course	Z Writing in a simple Z Writing in a simple Z to describe experi Z ech and common pediate level. Broad	expression expression and the second express	2 about 2 about 2 and 2 sional the 2 2 sions
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2046142								
Mapped to the le	Russian - Advanced evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian on to	Z	2 student.					
Communication with native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and understanding texts concerning								
currant issues and popular scientific and technical articles.								
2046155	English Conversation	Z	2					
2046155	,		2					
0040450	Improving communicative skills in speaking on general topics and general technical topics.							
2046156	English Conversation	Z	2					
	Improving communicative skills in speaking on general topics and general technical topics.		_					
2046161	Presentations in English	Z	2					
	Preparing students to present in English on technical topics, with a possible co-operation with specialized departments.							
2046162	Presentations in German	Z	2					
	Preparation for presenting technical topics in German, possibly in cooperation with specialized departments.							
2046163	Presentations in French language	Z	2					
2010100	Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.	_	-					
2046164	Presentations in Russian	Z	2					
2040104	Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.		2					
0040405			0					
2046165	Presentations in Spanish	Z	2					
	Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.							
2046166	Presentations in Czech	Z	2					
	Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departm	ents.						
2131002	Engineering Design II	Z,ZK	4					
Principles of ISO G	PS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface	texture, geometrica	al tolerance,					
dimensional loo	ps, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the	eir knowledge from	ectures.					
2131026	Machine Elements and Mechanisms II	ZK	3					
	, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism,		- 1					
Tremmary design,	and fittings.	pipelines and their	20003301103					
0404540		7.71/						
2131512	Machine Elements and Mechanisms I.	Z,ZK	. 6					
	elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, ke							
	on, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded	•						
pressed, splined ar	nd key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple asser	nbly units is also in	dispensable					
	seminar work.							
2133013	Engineering Design III.	Z	2					
	Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)							
2133014	Engineering Design IV.	Z	2					
2133025	Design	7	4					
	n, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft coupl	- lings and clutches	7					
	Electric Circuits and Electronics	ings and clateries.						
2141504		771/	4					
		Z,ZK	4					
	neory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of	energy. El. Power a	nd Energy.					
	neory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilize	energy. El. Power a r, power control, op	nd Energy.					
Introduction into	neory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilize amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, micropro	energy. El. Power a r, power control, op ocessor.	nd Energy. perational					
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2183091	Project Presentation	Z	4				
	Preparation and presentation of a given project theme.						
2311101	Mechanics I.	Z,ZK	4				
Mechanics I deals with the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their systems with and without friction. There are introduced the methods of description of position and motion of particles and rigid bodies.							
2311102	Mechanics II.	Z,ZK	4				
	and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar motion, s		rew motion,				
general spatial mot	ion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and vect in kinematics. Basic theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechan		cal methods				
2321039	Materials Science II.	Z,ZK	4				
	netallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and the						
- andamentale of h	technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materi	als.	p. coccog,				
2322029	Materials Science I.	KZ	3				
	ent state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, defor	=					
	erials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, in						
2362091	Project	KZ	2				
2363091	Project Presentation	Z	4				
2371047	Automatic Control	Z,ZK	5				
	lers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automat	-	- 1				
	ns, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentra	-					
via programmabi	le logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained.	Students begin to	work with				
2372041	MATLAB software as a common platform of control engineers.	V7	3				
	Computer Support for Study ces students into creating technical and professional documents on computers or Web and into realizing technical computations with t	KZ	-				
	al skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical computations.						
2372083	Measurement in Engineering	KZ	3				
	sor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and						
0.00.000	instruments.		04.0				
2372091	Project	KZ	2				
	An individual project from the branch of specialisation, which student will study on his/her magister level						
2373091	Project presentation	Z	4				
•	pachelor work presentation. Student should study the presentation software possibilities and proposition of the department. Student st						
of actual version	of his diploma or bachelor work and present it in the face of the other student. The presentation will continue with discussion. Conse	quently, the work s	should be				
0004054	presented as a pdf file on a temporal web page.	7.71					
2381054	Management and Economics of the Enterprise	Z,ZK	4				
-	ded to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasoning	-					
	ships between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audien n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of						
	punter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the	•	- 1				
	hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project managerial functions.						
_	purposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be	=					
2383001	Fundamentals of Law	Z	2				
Basic orientation in	hegal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid	e a view into the C	zech Legal				
Order, particular so	ources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is n	ecessary for stude	nts to know				
J	ns, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws.						
leads students to k	now some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relation	ships and to make	them ready				
	to prepare professional presentations and to understand basic structures between law and engineering	_					
2383009	Communication and Dealing with People	Z	2				
Human communic	cation represents an irreplaceable phenomenon in human activity, as it is present in practically all of his activities. The same applies (the activities of managers. So you can't not communicate - you can only communicate badly, well and excellently.	with specific modif	cations) to				
K331068	Technology I	Z,ZK	5				
Foundry properties	of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of form	ing processes. Sei	mi-products,				
	heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brasing. Surface treatmen						
K333038	Fundamentals of Technology I.	Z	3				
•	ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology		1				
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							
1/0.4404.4	welding and arc welding with coated electrodes. Thermal cutting.	7 71/					
K341014	Technology II.	Z,ZK	5				

For updated information see http://bilakniha.cvut.cz/en/FF.html Generated: day 2025-07-04, time 03:59.