Study plan

Name of study plan: 08 40 45 52 BSTR KPP 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: 258

Elective courses credits: -21 Sum of credits in the plan: 237 Note on the plan: první pokus

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 211

The role of the block: P

Code of the group: 12B-KMENK TZI STR

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

Credits in the group: 156

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2371047	Automatic Control Milan Hofreiter, R žena Petrová, Tomáš Vyhlídal, Jaromír Fišer Tomáš Vyhlídal Tomáš Vyhlídal (Gar.)	Z,ZK	5	3P+15C+05L	*	Р
2182019	Chemistry Radek Šulc, Martin Dostál, Vojt ch B lohlav, Stanislav Solna, Jan Sko ilas Radek Šulc Radek Šulc (Gar.)	KZ	3	2P+1C	1	Р
2131512	Machine Elements and Mechanisms I. František Lopot	Z,ZK	6	3P+2C	*	Р
2131026	Machine Elements and Mechanisms II Eliška Cézová, Zden k ešpíro, Martin Dub, Jan Flek, Ji í Houkal, Jan Kanaval, František Lopot, Karel Petr František Lopot František Lopot (Gar.)	ZK	3	3P+0C	*	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
2141505	Electrical machines and drives Jan Chyský, Jaroslav Novák, Lukáš Novák Jaroslav Novák (Gar.)	Z,ZK	4	2P+08C+14L	*	Р
2021041	Physics I.	Z,ZK	7	4P+1L	*	Р
2021025	Physics II.	Z,ZK	4	1P+2L	3	Р
2133025	Design František Lopot František Lopot (Gar.)	Z	4	0P+4C	*	Р
2011021	Constructive Geometry Ivana Linkeová	Z,ZK	6	3P+2C	*	Р
2381054	Management and Economics of the Enterprise Theodor Beran, Št pánka Uli ná, Vladimír Brdek, Ladislav Vaniš, Petr Žemli ka Theodor Beran Theodor Beran (Gar.)	Z,ZK	4	2P+2C	*	Р
2011056	Mathematics I Radka Keslerová, Marta Hlavová, Ji í Holman, Gejza Dohnal, Marta ertíková, Vladimír Hric, Nikola Pajerová, Petr Louda, Lukáš Hájek, Radka Keslerová Gejza Dohnal (Gar.)	Z,ZK	8	4P+4C	*	Р
2011062	Matematika II. Radka Keslerová	Z,ZK	8	4P+4C	*	Р
2011009	Mathematics III Radka Keslerová, Ji í Holman, Gejza Dohnal, Marta ertíková, Vladimír Hric, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Tomáš Neustupa, Stanislav Kra mar Stanislav Kra mar (Gar.)	Z,ZK	5	2P+2C	*	Р

2311101	Mechanics I. 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
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
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.)	KZ	3	2P+1L	2	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
2011049	Numerical Mathematics Radka Keslerová, Ji í Holman, Marta ertíková, Vladimír Hric, Petr Louda, Lukáš Hájek, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Petr Svá ek Petr Svá ek (Gar.)	Z,ZK	4	2P+2C	4	Р
2012037	Computer Graphics Marta Hlavová, Ji í Holman, Nikola Pajerová, Martin Hanek, Jan Karel, Ivana Linkeová, Jaroslav Cibulka Ivana Linkeová Ivana Linkeová (Gar.)	KZ	3	1P+1C	*	Р
2372041	Computer Support for Study Vladimír Hlavá	KZ	3	1P+1C	*	Р
2181026	Momentum, Mass and Heat Transfer Martin Dostál, Vojt ch B Iohlav, Stanislav Solna, Jan Sko ilas, Tomáš Jirout, Adam Krupica, Ji í Moravec Tomáš Jirout Tomáš Jirout (Gar.)	Z,ZK	5	3P+1C	*	Р
2131002	Engineering Design II Eliška Cézová, Martin Dub, Jan Flek, Jan Kanaval, František Lopot, Karel Petr, Martin Havlí ek, Jan Hoidekr, Roman Uhlí Karel Petr Karel Petr (Gar.)	Z,ZK	4	2P+3C	2	Р
2133013	Engineering Design III. Jan Kanaval, František Lopot, Jan Hoidekr, David Skalický, Roman Uhlí Jan Kanaval Jan Kanaval (Gar.)	Z	2	0P+2C	Z	Р
2133014	Engineering Design IV. František Lopot František Lopot (Gar.)	Z	2	0P+2C	L	Р
2372083	Measurement in Engineering Martin Novák, Vladimír Hlavá Martin Novák Martin Novák (Gar.)	KZ	3	1P+0C+2L	*	Р
K331068	Technology I	Z,ZK	5	16B	*	Р
K341014	Technology II.	Z,ZK	5	8KP+8KC	*	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.)	KZ	4	1P+2C	*	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=12B-KMENK TZI STR Name=01 2012 souhrn skupin 12B*KiP-KMEN pro i od 1 do 6

Z,ZK 2371047 **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

2182019 Chemistry

MATLAB software as a common platform of control engineers.

2141504

General chemistry from the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and properties of matter, thermodynamics, phase equilibrium, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and biochemistry. Laboratory practice is oriented upon the material properties measurement.

2131512 Machine Elements and Mechanisms I. Z,ZK 6

Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, 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.

2131026 Machine Elements and Mechanisms II 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.

Z.ZK

Electric Circuits and Electronics Introduction into theory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of energy. El. Power and Energy. Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.

2141505 Electrical machines and drives Z,ZK

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.

2021041	Dhygics I	Z,ZK	7
	Physics I. namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elast	1 '	· -
•	anics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. C		
	ic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and in		
measurements of	11 various experiments related to the lectures.		
2021025	Physics II.	Z,ZK	4
Faraday's law of ele	ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties o	f electromagnetic w	aves. Interactio
of radiation with ma	atter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom	and periodic syster	m of elements.
Spectra, x-rays, ;la	ser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6	experiments related	d to the lecture
2133025	Design	Z	4
Design, design cal	culations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and	d clutches.	
2011021	Constructive Geometry	Z,ZK	6
The subject is focu	ised on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.	<u> </u>	
2381054	Management and Economics of the Enterprise	Z,ZK	4
The subject is inter	nded to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonable to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonable to the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonable to the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonable to the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonable to the students of the students of the starting points necessary for the starting points are starting to the starting points of the starting points are starting to the starting points and the starting points are starting to the starting points and the starting points are starting to the starting points and the starting points are starting to the starting points and the starting points are starting to the starting points and the starting points are starting to the starting points and the starting points are starting to the starting points and the starting points are starting points are starting points.	soning and to help t	hem understar
the basic relations	hips between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the auc	dience to be able to	communicate
	organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing		=
	ounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and appro	• •	_
_	ney will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project managerial functions are their content.	anagement. For dec	cision-making
	learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be introduced.		
2011056	Mathematics I	Z,ZK	8
	tter emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and conne		•
-	v the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic are	as: eigennumbers a	and eigenvecto
	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. Differ	· · · · · · · · · · · · · · · · · · ·	
	Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) inte	-	
	r, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and G		-
	e of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vi	ector field through a	a surrace. The
Gauss-Ostrograds	· .	7.71	
2011009	Mathematics III	Z,ZK	5
	urse in ordinary differential equation and infinite series.		
2311101	Mechanics I.	Z,ZK	4
	with the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and the	ir systems with and	d without friction
	ed the methods of description of position and motion of particles and rigid bodies.		
2311102	Mechanics II.	Z,ZK	4
	t and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar moti	· ·	
	tion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and	i vector method. Gra	apnicai metnoc
	c theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms.	1.7	
2322029	Materials Science I.	KZ	3
	nt state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, de	=	
	ls, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations,	1	
2321039	Materials Science II.	Z,ZK	4
	netallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal a	and thermo-mechan	nical processing
	on alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materials.		
2011049	Numerical Mathematics	Z,ZK	4
	of systems of linear equations, iterative methods. Numerical solution of nonlinear algebraic equations. Least squares method. Numerical solution of nonlinear algebraic equations.	erical solution of ord	dinary differenti
	nd boundary value problems. Numerical solution of basic linear partial differential equations by finite difference method.		
2012037	Computer Graphics	KZ	3
2372041	Computer Support for Study	KZ	3
The course introdu	ices students into creating technical and professional documents on computers or Web and into realizing technical computations v	with the use of com-	puters. Studen
gain practical skills	by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical	al-based WWW pag	ge.
2181026	Momentum, Mass and Heat Transfer	Z,ZK	5
Fundamentals of ti	ransport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechan	ical energy equation	n. Residence
time distributions ir	n continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and	d thermal radiation.	Multicompone
systems. Mass trar	nsfer by molecular diffusion, convection, with chemical reactions and interphase mass transfer.		
2131002	Engineering Design II	Z,ZK	4
Principles of ISO G	GPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, sur	face texture, geome	etrical toleranc
	tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice th	eir knowledge from	n lectures.
· ·	Engineering Design III.	Z	2
dimensional loops,			
dimensional loops, 2133013	y unit (draft drawing, detail drawing, assembly drawing, technical report)		2
dimensional loops, 2133013 Design of assembl		Z	
dimensional loops, 2133013 Design of assembl 2133014	Engineering Design IV.		
dimensional loops, 2133013 Design of assembl 2133014 2372083	Engineering Design IV. Measurement in Engineering	KZ	3
dimensional loops, 2133013 Design of assembl 2133014 2372083 Overview of senso	Engineering Design IV.	KZ	3
dimensional loops, 2133013 Design of assembl 2133014 2372083 Overview of senso instruments.	Engineering Design IV. Measurement in Engineering r principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration ar	KZ nd verification of me	3 easurement
dimensional loops, 2133013 Design of assembl 2133014 2372083 Overview of senso instruments. K331068	Engineering Design IV. Measurement in Engineering or principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration are Technology I	KZ and verification of me	3 easurement 5
dimensional loops, 2133013 Design of assembl 2133014 2372083 Overview of senso instruments. K331068 Foundry properties	Engineering Design IV. Measurement in Engineering r principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration ar Technology I s of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of	KZ and verification of me	3 easurement 5
dimensional loops, 2133013 Design of assembl 2133014 2372083 Overview of senso instruments. K331068 Foundry properties	Engineering Design IV. Measurement in Engineering or principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration are Technology I	KZ and verification of me	3 easurement

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. Inpu	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.							
2153005	Fundamentals of Energy Conversions	Z	1				

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: 12B*K*P-ZT12

Fundamentals of Law

Name of the group: 04 2012 kombinované ZT v po adí 12

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

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

Credits in the group: 6 Note on the group:

2383001

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
K333038	Fundamentals of Technology I.	Z	3	8B	*	Р

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

K333038 Fundamentals of Technology I. Z 3
Production processes in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technical metals. Production of pig

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

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

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

Requirement credits in the group: In this group you have to gain 22 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 22 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
2351110	Modeling and simulation I. Petr Mašek, Miroslav Ondrá ek, Tomáš Lazák, Jan Smolík, Tomáš Krannich, Josef Kekula, Petr Kolá, Vojt ch Matyska Jan Smolík Jan Smolík (Gar.)	Z,ZK	5	2P+2C+0L	*	Р
2211581	Transmissions Ji í Pakosta Ji í Pakosta Ji í Pakosta (Gar.)	Z,ZK	5	2P+2C	*	Р
2311073	Simulation of Mechanical Systems Zbyn k Šika	Z,ZK	6	2P+3C	*	Р

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

2351110	Modeling and simulation I.	Z,ZK	5			
The subject is focused on explanation of the design of machine tool axis by individual parts and components.						
2211581	Transmissions	Z,ZK	5			
The course provides a general summary of transmissions for various applications which the student in the specialization designer-calculator meets. The gearing basics of production						
and transport machines will be briefly explained, important calculations will be discussed in more detail on the examples of transmission devices of motor vehicles.						
2311073	Simulation of Mechanical Systems	Z,ZK	6			

Code of the group: 12BS*7Q-KPP-OP

Name of the group: 13 2012 BSTR 7.sem 1povvol KPP-OP

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:

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
2112092	Department Project	KZ	4	0P+6C	*	Р
2122092	Department Project	KZ	4	0P+6C	*	Р
2352092	Specialization Project Vladimír Andrlík Vladimír Andrlík (Gar.)	KZ	4	0P+6C+0L	*	Р
2212092	Project Ji í Pakosta, Michal Jasný, Jakub Seidl, Jaroslav Kan ra, Rastislav Toman, Petr Hatschbach, Antonín Mikulec, Old ich Vítek, Ji í Vávra, Petr Hatschbach Old ich Vítek (Gar.)	KZ	4	0P+4C	Z	Р
2312092	Department project Michael Valášek	KZ	4	0P+6C	*	Р
2132092	Project František Lopot	KZ	4	0P+6C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BS*7Q-KPP-OP Name=13 2012 BSTR 7.sem 1povvol KPP-OP

2112092	Department Project	KZ	4			
2122092	Department Project	KZ	4			
The content of the subje						
2352092	Specialization Project	KZ	4			
The course is focused an elaboration of individual work, which student solves in close cooperation with the head of the assigned tonic. The student will get acquainted with the problems						

The course is focused on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will get acquainted with the problems of manufacturing machines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations with the supervisor proceed in professional solution of the problem. At the end of the semester students present their work on small oral examination in which they present the work performed, the coherence and meaning.

2212092	Project	KZ	4		
Basic practical skills of work with advanced CAD/CAE/CAM systems. Project training in solution of design task based on industry requirements.					
2312092	Department project	KZ	4		
Individual asignment					
2132092	Project	KZ	4		

Elaboration of semester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), gearbox provided with two pairs of mating gears and compensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected mechanical drive is provided instead of previous gearbox and additional mechanical drives by means of only one single-stage warm gearbox.. Elaboration of 4 additional reports analysing production and economic problems of assigned machine element (gearbox shaft or gear). Besides project of mechanical drive must be elaborated design project of crank mechanism and its flywheel for assigned single-cylinder piston engine.

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

Name of the group: 15 2012 BSTR 8.sem povinné KPP

Requirement credits in the group: In this group you have to gain 23 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 23 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
2131120	Design of Steel Structures Zden k ešpíro	Z,ZK	6	2P+2C	*	Р
2351117	Vladimír Andrlík Vladimír Andrlík Vladimír Andrlík (Gar.)	Z,ZK	5	2P+0C+2L	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BS*8P-KPP Name=15 2012 BSTR 8.sem povinné KPP

2131120	Design of Steel Structures	Z,ZK	6			
2351117		Z,ZK	5			
Importance of fluid mechanisms and drives, principle, design and use. Divided on two parts - Hydraulics and Pneumatics.						

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 15

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

	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 | 2

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

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

Name of the group: 08 2012 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	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take par	in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041063	French - Bachelor Exam /FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take par	in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041062	German - Bachelor Exam / FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take par	in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041065	Russian - Bachelor Exam / FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take par	in discussions,
to write a summary, a	report and an essay, to read technical texts, to master grammar at advanced level.		
2041064	Spanish - Bachelor Exam / FME	Z,ZK	2
Mapped to the Commo	n European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take par	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 fr	n individual project from the branch of specialisation, which student will study on his/her magister level					
2362091	Project	KZ	2			
2152091	Deparmental Project	KZ	2			
2182091	Project	KZ	2			
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	Presentation of Project	Z	4				
2363091	Project Presentation	Z	4				
2373091	Project presentation	Z	4				
Diploma thesis or bach	elor work presentation. Student should study the presentation software possibilities and proposition of the department. Studer	nt should prepare	the presentation				
of actual version of his	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. Consequently, the work should be						
presented as a pdf file	presented as a pdf file on a temporal web page.						
2192001	Project Procentation	7	4				

Code of the group: 12BS*8Q-KPP-BP

Preparation and presentation of a given project theme.

Name of the group: 16 2012 BSTR 8.sem 1povvol KPP-BP

Requirement credits in the group: In this group you have to gain 5 credits

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

Credits in the group: 5 Note on the group:

Name of the block: Elective courses

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

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

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	*	V
201A049	Numerical Mathematics A Lud k Beneš	ZK	2	0P+0C	*	V

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	ies. Oscillations
waves. Fluid mecha	nics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	nductors, semico	nductors,
insulators. Magnetic	field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and inc	direct measureme	nts, regression,
measurements of 1	1 various experiments related to the lectures.		
202A025	Physics II.A	ZK	2
of radiation with ma	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of tter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom a er. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 e	nd periodic syste	n of elements.
201A021	Constructive Geometry A	ZK	3
The subject is focus	ed 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	t, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differe	ntial operators di	/ (divergence)
	unction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integ	ral, Fubini theorer	n. Transformatio
and curl (rotation). F			
, ,	cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gr	een's theorem. A	potential vector
of integrals to polar			•
of integrals to polar	cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gr 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 function.		•

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

Name of the group: 05 2012 doporu ené seminá e

Numerical Mathematics A

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

Credits in the group: 0

Note on the group:

201A049

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:

2046155	members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2046133	English Conversation 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, Michaela 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 Jaroslava Kommová	Z	2	0P+2C	L	V
2046117	Czech - Advanced Jaroslava Kommová	Z	2	0P+2C	Z	V
2046127	Czech - Upper Intermediate Jaroslava Kommová	Z	2	0P+2C	Z	V
2046128	Czech - Upper Intermediate Jaroslava Kommová	Z	2	0P+2C	L	V
2046119	Czech Language for Beginners I. Jaroslava Kommová	Z	2	0P+2C	Z	V
2046120	Czech Language for Beginners II. Jaroslava Kommová	Z	2	0P+2C	L	V
2046086	French - Lower Intermediate Course Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046087	French - Lower Intermediate Course Michaela Schusová, Dušana Jirovská Dušana Jirovská (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

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	V
2046081	German - Upper Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046080	German - Upper Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela	Z	2	0P+2C	Z	V
2046076	Schusová Michaela Schusová (Gar.) German - Beginners Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela	Z	2	0P+2C	Z	V
2046077	Schusová Petr Laurich (Gar.) German - Beginners Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška	Z	2	0P+2C	L	V
2046161	Vítková Jaroslava Kommová (Gar.) 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	*	V
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 Vitková	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	V
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	V
2046098	Spanish - Lower Intermediate Michaela Schusová, Eliška Vítková, Jaime Andrés Villagómez Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046096	Spanish - Beginners Michaela Schusová, Eliška Vítková, Jaime Andrés Villagómez Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046097	Spanish - Beginners 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

Marty a proteintae	•					
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	Mapped to the Common European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which a student meets either at school					
or at his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improvem	ent of professiona	al language.			

	T		
2046070	English - Lower Intermediate	Z	2
•	early 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 sin	npie way abou
	and comprehension of simple texts. Improvement of professional language. A1 - A2.		-
2046074	English - Advanced	Z	2
•	on of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Write the control of the cont		
· ·	summary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's fie	ad of studies witho	out difficulties.
	advanced level. B1 - B2.	7	-
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 I		
	in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and compre ts from student´s field of studies without difficulties. Grammar structures on advanced level.	nension of popula	r-scientific and
		Z	2
2046072	English - Upper Intermediate		_
	nguage skills taking into consideration professional English and common professional terminology. Comprehension of standar By life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 - B1.	a English speech a	ina conversanc
2046073		Z	2
	English - Upper Intermediate n European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional Er		
	ension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intern		
nowledge.	Tision of standard English speech and conversation about topics of everyday life - at school, at work, during nee time, or filtern	nediate level. bload	dening grannin
2046068	English - Beginners	Z	2
	English - Degitinets of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p		
2046069	English - Beginners	Z Z	2
• •	n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understar	iding and use of ba	asic expression
-	minology (professional language).	7 7	
2046126	Czech Lower Intermediate	Z	2
-	early what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	əm. vvriting in a sin	npie way abou
	and comprehension of simple texts. Improvement of professional language.		-
046125	Czech Lower Intermediate	Z	2
-	early what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	em. vvriting in a sin	npie way abou
	and comprehension of simple texts. Improvement of professional language.		
046118	Czech -Advanced	Z	2
	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in (_	
	discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compreher	ision of popular-sc	elentific and
	ts from student's field of studies without difficulties. Grammar structures on advanced level.		0
2046117	Czech -Advanced	Z	. 2
	ken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in	· ·	essing opinion
-	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. Abil	ity to describe exp	eriences and
	one'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 professiona		
0,	ension 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
nowledge technical la			
046119	Czech Language for Beginners I.	Z	2
-	eryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes		
046120	Czech Language for Beginners II.	Z	2
• •	n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understar	nding and use of ba	asic expressio
general scientific ter	minology (professional language).		
046086	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. Wi	riting in a simple wa	ay about famili
pics. Reading and co	mprehension of simple texts. Improvement of professional language.		
046087	French - Lower Intermediate Course	Z	2
apped to the level of	Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which	a student meets	at school or in
s/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.
046091	French - Advanced	Z	2
apped 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.
	ative speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading a	nd understanding f	texts concerni
irrant issues and pop	ular scientific and technical articles.		
046090	French - Advanced	Z	2
omprehension of spo	ken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participation	on in discussions. F	Expressing
oinions. Written skills.	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te	echnical articles.	
	French - Upper Intermediate	Z	2
046089	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students of	comes across at w	ork, at school,
lapped to the level of	ılking about these topics. Ability to describe experiences and events, explain one´s opinions and plans. Reading and understa	0.0	
		Z	2
Mapped to the level of uring free time, and ta	French - Upper Intermediate	Z	
Mapped to the level of uring free time, and ta 2046088 Inderstanding standar		Z	
lapped to the level of uring free time, and ta 2046088 Inderstanding standar vents, briefly explain o	French - Upper Intermediate d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abilione's opinions and plans. Reading and understanding general and technical texts.	Z lity to describe exp	eriences and
lapped to the level of uring free time, and to 046088 nderstanding standar vents, briefly explain o 046084	French - Upper Intermediate d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abil	Z lity to describe exp	eriences and

2046085	French - Beginners' Course	Z	2
	Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which Beaking 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
Basic of Indonesian La	nguage for Student Exchange Program to Indonesia	_	· –
2146061	Technical Indonesian - Course I.	Z	2
•	ian Language for Student Exchange Program to Indonesia		_
2144062	Technical Indonesian - Course II.	Z,ZK	3
2046078	nguage for Student Exchange Program to Indonesia German - Lower Intermediate Course	7	2
	arly what is spoken about everyday situations which a student meets in the company or in his/her free time and speaking ab	_	_
_	eading and comprehension of simple texts. Improvement of professional language.		
2046079	German - Lower Intermediate Course	Z	2
	Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improveme		
2046083	German - Advanced Course	7	2
	German - Advanced Course Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in	_	l
• • •	in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compre		•
	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, participat Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te		. Expressing
2046081	German - Upper Intermediate Course	Z	2
	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students c	_	_
during free time, and ta	lking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa	anding general and	d technical texts
2046080	German - Upper Intermediate Course	Z	2
_	d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abil	ity to describe exp	eriences and
2046076	ne's opinions and plans. Reading and understanding general and technical texts.	Z	2
	German - Beginners eryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes	_	_
-	Framework of Reference for Languages A1.		
2046077	German - Beginners	Z	2
	mmon European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding	and use of basic	expressions of
	nology (professional language).		
2046161	Presentations in English resent in English on technical topics, with a possible co-operation with specialized departments.	Z	2
2046166	Presentations in Czech	Z	2
	ive presentations in English on technical topics, with a possible co-operation with specialized departments.	_	_
2046162	Presentations in German	Z	2
	ing technical topics in German, possibly in cooperation with specialized departments.		'
	Presentations in Russian	Z	2
	ing technical topics in Russian, possibly in cooperation with specialized departments.	7	
2046163 Preparation for present	Presentations in French language ing technical topics in French, possibly in cooperation with specialized departments.	Z	2
2046165	Presentations in Spanish	Z	2
	ing technical topics in Spanish, possibly in cooperation with specialized departments.	_	_
2046137	Russian - 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	iting in a simple w	ay about familia
<u> </u>	mprehension of simple texts. Improvement of professional language.	7	
2046138 Mapped to the level of	Russian - Lower Intermediate Course Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a str	Z	2 hool or in his/he
	about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profe		
2046141	Russian - Advanced	Z	2
	ken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participat		Expressing
	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to	,	
2046142	Russian - Advanced Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian on t	Z	2
	tive speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading a	•	
	ular scientific and technical articles.		
2046140	Russian - Upper Intermediate	Z	2
	Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a student r		_
	pout these topics. Ability to describe experiences and events, briefly explain one's opinions and plans. Reading and understa	inding general and	
2046139 Understanding standard	Russian - Upper Intermediate d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abil		eriences and
-	ne's opinions and plans. Reading and understanding general and technical texts.	,	
2046136	Russian - Beginners	Z	2
	Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understand	ing and use of bas	sic expressions
	ninology (professional language)		
2046135	Russian - Beginners Bryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes	Z Z	2
Dasio vocabulally of eve	nyaay iilo iila aponon ana wiinton toitti. Onatristanung and use of basic expressions of general scientinic terriniciotyy (profes		

2046099	Spanish - Lower Intermediate	Z	2		
Mapped to the level of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student meets at school or in h					
free time and speaking	about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profe	ssional language.			
2046098	Spanish - Lower Intermediate	Z	2		
Understanding clearly w	hat 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 w	ay about familiar		
topics. Reading and con	nprehension of simple texts. Improvement of professional language.				
2046096	Spanish - Beginners	Z	2		
Aim:Understanding clea	rly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about thei	m. Writing in a sim	iple way about		
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language.				
2046097	Spanish - Beginners	Z	2		
Mapped to the Common	European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a	student meets at	school or in		
his/her free time and sp	eaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of	of professional lan	iguage.		

List of courses of this pass:

Code	Name of the course	Completion	Credits
2011009	Mathematics III	Z,ZK	5
	An introductory course in ordinary differential equation and infinite series.		
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
	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	solution of ordinar	y differentia
2011056	Mathematics I	Z,ZK	8
In the course, grea	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.	s between concep	ts. Students
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. Different		ivergence)
and curl (rotation). I	Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,	Fubini theorem. Tra	nsformation
of integrals to pola	r, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Green	n's theorem. A pote	ential vector
field, independen	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.	r field through a su	urface. The
2012035	Algorithmization and Programming Fundamentals	KZ	4
Programming in	MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matri	ces, vectors and o	perations.
Writting M-script. In	nput and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Syste	ms of linear equati	ons. Script:
	tructure 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	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	ZK	3
	The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relation	ons.	
201A049	Numerical Mathematics A	ZK	2
201A056	Mathematics I.A	ZK	4
	Introduction to linear algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable		
201A062	Mathematics II.A	ZK	4
	set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Different		iveraence)
-	Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,		
of integrals to pola	r, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Greer	n's theorem. A pote	ential vector
field, independen	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 vecto	r field through a su	urface. The
	Gauss-Ostrogradskij theorem.		
	Physics II.	Z,ZK	4
2021025	F11/51/65 II.		
	FILYSICS II. ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elec		 Interaction
Faraday's law of ele	ļ ·	tromagnetic waves	
Faraday's law of ele of radiation with n	ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elec	tromagnetic waves	elements.
Faraday's law of ele of radiation with n	ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and	tromagnetic waves	elements.
Faraday's law of ele of radiation with n Spectra, x-rays, ;la 2021041	ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic. 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	tromagnetic waves periodic system of riments related to t Z,ZK	f elements. he lectures
Faraday's law of ele of radiation with n Spectra, x-rays, ;la 2021041 Kinematics and dyn	extromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic. 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 experiments of 6 experiments.	tromagnetic waves periodic system of riments related to t Z,ZK perties of bodies. (f elements. the lectures 7 Oscillations
Faraday's law of ele of radiation with n Spectra, x-rays, ;la 2021041 Kinematics and dy waves. Fluid m	extromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic. 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 experiments of 5 experiments. Physics I. namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic pro-	tromagnetic waves periodic system of riments related to t Z,ZK perties of bodies. (nductors, semicon	f elements. he lectures 7 Oscillations ductors,
Faraday's law of ele of radiation with n Spectra, x-rays, ;la 2021041 Kinematics and dy waves. Fluid m	extromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic. 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 experiments of 6 experiments. In a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic procechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	tromagnetic waves periodic system of riments related to t Z,ZK perties of bodies. (nductors, semicon	f elements. he lectures 7 Oscillations ductors,
Faraday's law of ele of radiation with n Spectra, x-rays, ;la 2021041 Kinematics and dy waves. Fluid m	extromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic. 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 experiments of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic procechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co ic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indirect.	tromagnetic waves periodic system of riments related to t Z,ZK perties of bodies. (nductors, semicon	f elements. he lectures 7 Oscillations ductors,

202A025	Physics II.A	ZK	2
Faraday's law of ele	ectromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elec	tromagnetic waves.	. Interaction
of radiation with n	natter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and	periodic system of	elements.
Spectra, x-rays, ;la	iser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 expe	riments related to th	he lectures.
202A041	Physics I.	ZK	3
Kinematics and dy	namics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic pro	perties of bodies. C	Oscillations,
waves. Fluid m	echanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	nductors, semicono	ductors,
insulators. Magne	tic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire	ct measurements, r	regression,
	measurements of 11 various experiments related to the lectures.		
2041061	English-Bachelor Exam	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 difficult	ies, to take part in d	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 Con	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	ies, to take part in d	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 Con	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	ies, to take part in d	discussions,
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2041064	Spanish - Bachelor Exam / FME	Z,ZK	2
Mapped to the Con	nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	ies, to take part in d	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
	ı nmon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult		
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	•	
2046068	English - Beginners	Z	2
	rabulary of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p		1
2046069	English - Beginners	7	2
	mmon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding	. – .	
apped to the Go.	of general scientific terminology (professional language).	, a 400 0. 240.0 0	5x(p:000i0ii0
2046070	English - Lower Intermediate	Z	2
	Inglish - Lower Intermediate ng clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.		I
7 iiii. Onacistanan	familiar topics. Reading and comprehension of simple texts. Improvement of professional language. A1 - A2.	writing in a simple	way about
2046071		Z	2
	English - Lower Intermediate mmon European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which a s	. – .	
	e time and speaking about them. Writing in a simple way about familiar topics, reading and comprehension of simple texts. Improveme		
2046072	English - Upper Intermediate	Z	2
The aim is to exten	d language skills taking into consideration professional English and common professional terminology. Comprehension of standard En about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2		Universation
2046072		Z	
2046073	English - Upper Intermediate ommon European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional Engli		2
* *	rehension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intermedi	-	I
terminology. Comp	knowledge.	ate level. Dioaderiii	ig grammar
2046074		7	2
	English - Advanced hension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Writter	n and oral skills on	2 advanced
	ite a summary, a report, an essay reading and comprehension of popular-scientific and scientific articles or texts from student's field		
level. Ability to wi	Grammar structures on advanced level. B1 - B2.	or studies without t	ulliculies.
2046075		Z	2
	English - Advanced		
* *	ommon European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in Engage in a discussion. Written and are level skills as advanced level. Ability to write a summery a report, as accept reading and comprehension.		
and active particip	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.	ision or popular-SCI	ieriuno aflu
2046076		Z	2
	German - Beginners		
Dasic vocabulary (of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profession the Common European Framework of Reference for Languages A1.	ai iaiiyuaye) ii corr	responds to
2046077	German - Beginners	Z	2
	ı		
wapped to the lev	el Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding an general scientific terminology (professional language).	u use of basic expr	essions of
2040070		7	
2046078	German - Lower Intermediate Course	Z	2
Aim: Understandir	ng clearly what is spoken about everyday situations which a student meets in the company or in his/her free time and speaking about	them. writing in a s	simple way
00.10070	about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		
2046079	German - Lower Intermediate Course	Z	2
* *	el of Common European Framework of Reference 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 comprehesion of simple texts. Improvemen		
2046080	German - Upper Intermediate Course	Z	2
Understanding st	tandard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	to describe experie	ences and
	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.		
2046081	German - Upper Intermediate Course	Z	2
	vel of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students com-		I
	nd talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understanding	ng general and tech	hnical texts.
2046082	German - Advanced Course	Z	2
=	of spoken language as well as lectures in German on topics familiar to the student. Communication with native speakers, participation		
opinions.	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a	and technical article	es.

2046083			
2040000	German - Advanced Course	Z	2
	l of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in G		
and active participa	ation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehe	nsion of popular-se	cientific and
0040004	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	_	
2046084	French - Beginners	Z	2
Understanding clea	rly 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.	g in a simple way a	bout familiar
2046095		7	2
2046085	French - Beginners´ Course el of Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which a	. –	_
	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2046086	French - Lower Intermediate Course	7	2
	rily what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	_	l
onderotanding old	topics. Reading and comprehension of simple texts. Improvement of professional language.	y a op.oay a	oour amma.
2046087	French - Lower Intermediate Course	Z	2
Mapped to the lev	el of Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which a	student meets at s	chool or in
his/her free tim	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lar	nguage.
2046088	French - Upper Intermediate	Z	2
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	2
Mapped to the lev	el of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students con	nes across at work	, at school,
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 ted	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	n in discussions. Ex	kpressing
	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a		
2046091	French - Advanced	Z	2
	evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to	pics familiar to the	I
Communication wit	h native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and u	Inderstanding texts	concerning
	currant issues and popular scientific and technical articles.		
2046096	Spanish - Beginners	Z	2
	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	way about
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		-
2046097	Spanish - Beginners	Z	2
	ommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a	student meets at so	ı
his/her free tim	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lar	nguage.
2046098	Spanish - Lower Intermediate	Z	2
	· ·		
Uniderstanding clea	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 a	ı
Officerstationing clea	rry 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.	g in a simple way a	ı
2046099	topics. Reading and comprehension of simple texts. Improvement of professional language.	in a simple way a	ı
2046099	topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate	Z	bout familiar
2046099 Mapped to the leve	topics. Reading and comprehension of simple texts. Improvement of professional language.	Z nt meets at school	bout familiar 2 or in his/her
2046099 Mapped to the leve free time a	topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate I of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a studer and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Z nt meets at school professional langua	2 or in his/her
2046099 Mapped to the leve free time a 2046117	topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate I of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a studer and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of Czech -Advanced	Z nt meets at school professional langua	2 or in his/her age.
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2046137	Russian - Lower Intermediate Course	<u>Z</u>	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 topics. Reading and comprehension of simple texts. Improvement of professional language.	in a simple way al	bout familiar
2046138	Russian - Lower Intermediate Course	Z	2
''	el of Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a studer		
	and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of p	orofessional langua	
2046139	Russian - Upper Intermediate andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	to describe evperi	2 ences and
Oriderstanding st	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	to describe experi	ences and
2046140	Russian - Upper Intermediate	Z	2
	vel of Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a student me	ets at work, at sch	ool, during
	ng about these topics. Ability to describe experiences and events, briefly explain one s opinions and plans. Reading and understanding	ng general and tec	
2046141	Russian - Advanced	Z	2
	of spoken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participation Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a		
2046142	Russian - Advanced	Z	2
	evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian on to	pics familiar to the	
Communication with	th native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and u	nderstanding texts	concerning
0040455	currant issues and popular scientific and technical articles.		
2046155	English Conversation Improving communicative skills in speaking on general topics and general technical topics.	Z	2
2046156	English Conversation	Z	2
2040100	Improving communicative skills in speaking on general topics and general technical topics.	_	2
2046161	Presentations in English	Z	2
	Preparing students to present in English on technical topics, with a possible co-operation with specialized departments.	ļ.	1
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
2046164	Preparation for presenting technical topics in French, possibly in cooperation with specialized departments. Presentations in Russian	Z	2
2040104	Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.		2
2046165	Presentations in Spanish	Z	2
	Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.	l	1
2046166	Presentations in Czech	Z	2
	Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized department		
2112092	Department Project	KZ	4
2122092	Department Project Department Project	KZ KZ	4 4
2122092 T	Department Project Department Project he content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the	KZ KZ department.	4
2122092 T 2131002	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II	KZ KZ department. Z,ZK	4
2122092 T 2131002 Principles of ISO G	Department Project Department Project he content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the	KZ KZ department. Z,ZK texture, geometrica	4 al tolerance,
2122092 T 2131002 Principles of ISO G	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface	KZ KZ department. Z,ZK texture, geometrica	4 A al tolerance,
2122092 T 2131002 Principles of ISO G dimensional loc 2131026	Department Project Depart	KZ KZ department. Z,ZK texture, geometricir knowledge from ZK	4 4 al tolerance, lectures.
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design	Department Project Engineering Design II SPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II Department Project Department Pr	KZ KZ department. Z,ZK texture, geometricir knowledge from ZK oipelines and their	4 al tolerance, lectures. 3 accessories
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II , design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pand fittings. Design of Steel Structures	KZ KZ department. Z,ZK texture, geometricir knowledge from ZK oipelines and their	4 4 al tolerance, lectures. 3 accessories
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface pps, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II , design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pand fittings. Design of Steel Structures Machine Elements and Mechanisms I.	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK oipelines and their Z,ZK Z,ZK Z,ZK	4 4 al tolerance, lectures. 3 accessories 6 6
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining 6	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II , design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pand fittings. Design of Steel Structures Machine Elements and Mechanisms I. Elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keep the content of the conte	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK oppelines and their Z,ZK Z,ZK ys). Mechanical tra	4 4 al tolerance, lectures. 3 accessories 6 6 ansmissions
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining G (belt, chain, fricti	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface pps, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II , design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pand fittings. Design of Steel Structures Machine Elements and Mechanisms I.	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK oppelines and their Z,ZK Z,ZK tys). Mechanical traits onnecting bolts,	4 4 al tolerance, lectures. 3 accessories 6 6 ansmissions clamped,
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2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining e (belt, chain, fricti pressed, splined an 2132092 Elaboration of ser	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II , design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pand fittings. Design of Steel Structures Machine Elements and Mechanisms I. elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, kellon, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assems seminar work. Project mester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), get	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK pipelines and their Z,ZK Z,ZK eys). Mechanical trait onnecting bolts, ably units is also in KZ arbox provided wit	4 4 al tolerance, lectures. 3 accessories 6 6 6 ansmissions clamped, dispensable 4 h two pairs
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2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining G (belt, chain, fricti pressed, splined an 2132092 Elaboration of ser of mating gears and of previous gearbox	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II SPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ups, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II In design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, and fittings. Design of Steel Structures Machine Elements and Mechanisms I. Elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, ke ion, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assemble seminar work. Project mester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), ged compensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected mechanical additional mechanical drives by means of only one single-stage warm gearbox Elaboration of 4 additional reports analysing prodess.	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK Dipelines and their Z,ZK Z,ZK eys). Mechanical trail connecting bolts, ably units is also in KZ arbox provided with anical drive is provuction and econom	4 4 al tolerance, lectures. 3 accessories 6 6 ansmissions clamped, dispensable 4 h two pairs ided instead nic problems
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining G (belt, chain, fricti pressed, splined an 2132092 Elaboration of ser of mating gears and of previous gearbox	Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II EPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ups, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II In design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, and fittings. Design of Steel Structures Machine Elements and Mechanisms I. Elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keeling, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assemble seminar work. Project mester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), ged compensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected mechanical drive arrangement of projected mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), ged compensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively demonstrated projected mechanical drive).	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK Dipelines and their Z,ZK Z,ZK eys). Mechanical trail connecting bolts, ably units is also in KZ arbox provided with anical drive is provuction and econom	4 4 al tolerance, lectures. 3 accessories 6 6 ansmissions clamped, dispensable 4 h two pairs ided instead nic problems
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining G (belt, chain, fricti pressed, splined an 2132092 Elaboration of ser of mating gears and of previous gearbox	Department Project Department Project Department Project The content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor work or the tutor of the Engineering Design II SPS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II In design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, and fittings. Design of Steel Structures Machine Elements and Mechanisms I. Elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keeting, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assem seminar work. Project mester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), gedecompensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected mechanical additional mechanical drives by means of only one single-stage warm gearbox Elaboration of 4 additional reports analysing prodictione element (gearbox shaft or gear). Besides project of mechanical drive must be elaborated design project of crank mechanism and chain and content of the project of crank mechanism and chain element (gearbox shaft or gear). Besides project of mechanical drive must be elaborated design project of crank mechanism and chain element (gearbox shaft or gear).	KZ KZ department. Z,ZK texture, geometrical in knowledge from ZK Dipelines and their Z,ZK Z,ZK eys). Mechanical trail connecting bolts, ably units is also in KZ arbox provided with anical drive is provuction and econom	4 4 al tolerance, lectures. 3 accessories 6 6 ansmissions clamped, dispensable 4 h two pairs ided instead nic problems
2122092 T 2131002 Principles of ISO G dimensional loc 2131026 Preliminary design 2131120 2131512 Joints and joining e (belt, chain, fricti pressed, splined an 2132092 Elaboration of ser of mating gears and of previous gearbor of assigned ma 2133013	Department Project Design II Design Elements Design II Design Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface ops, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the Machine Elements and Mechanisms II Design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanisms, and fittings. Design of Steel Structures Machine Elements and Mechanisms I. Design of Steel Structures Machine Elements and Mechanisms I. Design of Steel Structures Machine Elements and Mechanisms of feathers, pins, tenons, cotters, ket on, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly seminar work. Project mester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), ged a compensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected mechanical drives by means of only one single-stage warm gearbox Elaboration of 4 additional reports analysing produchine element (gearbox shaft or gear). Besides project of mechanical drive must be elaborated design project of crank mechanism are single-cylinder piston engine. Engineering Design III. Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)	KZ KZ department. Z,ZK texture, geometrical for knowledge from ZK Dipelines and their Z,ZK Z,ZK eys). Mechanical trail connecting bolts, ably units is also in KZ arbox provided with anical drive is provuettion and economical its flywheel for a Z	4 4 al tolerance, lectures. 3 accessories 6 6 6 ansmissions clamped, dispensable 4 h two pairs ided instead nic problems assigned
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2144062	Technical Indonesian - Course II.	Z,ZK	3
2111002	Basic of Indonesian Language for Student Exchange Program to Indonesia	2,210	1 0
2146060	Indonesian Language Course for Exchange Basic of Indonesian Language for Student Exchange Program to Indonesia	Z	2
2146061	Technical Indonesian - Course I. Second part of Indonesian Language for Student Exchange Program to Indonesia	Z	2
2152091	Deparmental Project	KZ	2
2153005	Fundamentals of Energy Conversions	Z	1
2153091	Presentation of Project	Z	4
2181026	Momentum, Mass and Heat Transfer	Z,ZK	5
Fundamentals of	transport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanica n continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and the systems. Mass transfer by molecular diffusion, convection, with chemical reactions and interphase mass transfer.	energy equation.	
2182019	Chemistry	KZ	3
General chemist	ry from the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and properties m, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and bioche oriented upon the material properties measurement.		-
2182091	Project Absolvent se seznámí se základy oboru Procesní technika.	KZ	2
2183091	Project Presentation Preparation and presentation of a given project theme.	Z	4
2211581	Transmissions	Z.ZK	5
The course provid	les a general summary of transmissions for various applications which the student in the specialization designer-calculator meets. The sport machines will be briefly explained, important calculations will be discussed in more detail on the examples of transmission devices.	e gearing basics o	f productio
2212092	Project Basic practical skills of work with advanced CAD/CAE/CAM systems. Project training in solution of design task based on industry rec	KZ quirements.	4
2311073	Simulation of Mechanical Systems	Z,ZK	6
2311101	Mechanics I.	Z,ZK	4
	with the basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their system. There are introduced the methods of description of position and motion of particles and rigid bodies.		hout frictio
2311102	Mechanics II.	Z,ZK	4
•	t and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar motion, s tion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and vec in kinematics. Basic theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechanisms transmit project	or method. Graph	
	Individual asignment		1
2321039 undamentals of n	Materials Science II. metallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and the standard combined chemical chemical combined chemical		4 processin
	technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of mater		
2322029	Materials Science I. sent state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, defor	KZ	3
	terials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, in		
2351110	Modeling and simulation I.	Z,ZK	5
	The subject is focused on explanation of the design of machine tool axis by individual parts and components.	,	-
2351117	Importance of fluid mechanisms and drives, principle, design and use. Divided on two parts - Hydraulics and Pneumatics	Z,ZK	5
2352092	Specialization Project	KZ	4
f manufacturing r	sed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge machines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations tion of the problem. At the end of the semester students present their work on small oral examination in which they present the work present. meaning.	with the superviso	r proceed
2362091	Project	KZ	2
2363091	Project Presentation	Z	4
2371047	Automatic Control	Z,ZK	5
	llers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automat	-	-
	ons, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentra	•	
via programmab	ole logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained. MATLAB software as a common platform of control engineers.	Students begin to	work with
2372041	Computer Support for Study uses students into creating technical and professional documents on computers or Web and into realizing technical computations with the	KZ	3 ers Studen
he course introdu	ices students into creating technical and professional documents on computers or Web and into realizing technical computations with	he use of compute	ers. Studer
he course introdu gain practic	uces students into creating technical and professional documents on computers or Web and into realizing technical computations with total skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator.	he use of compute ical-based WWW	ers. Studer page.
he course introdu gain practic 2372083	ices students into creating technical and professional documents on computers or Web and into realizing technical computations with	he use of compute ical-based WWW	ers. Studen page.
he course introdu gain practic 2372083	Loces students into creating technical and professional documents on computers or Web and into realizing technical computations with total skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical variables in Engineering Measurement in Engineering Insor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and instruments. Project	he use of compute ical-based WWW	ers. Studen page.
he course introdu gain practic 2372083 Overview of sen 2372091	Loces students into creating technical and professional documents on computers or Web and into realizing technical computations with a spreadsheet calculator, and by creating technical skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical systems. Measurement in Engineering as a principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and instruments. Project An individual project from the branch of specialisation, which student will study on his/her magister level	he use of compute ical-based WWW KZ verification of mea	ers. Studen page. 3 asurement
he course introdu gain practic 2372083 Overview of sen 2372091 2373091	Loces students into creating technical and professional documents on computers or Web and into realizing technical computations with total skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical computations with a spreadsheet calculator, and by creating technical variables in Engineering Measurement in Engineering Insor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and instruments. Project	he use of compute ical-based WWW KZ KZ verification of mea	rs. Studen page. 3 asurement 2

2381054	Management and Economics of the Enterprise	Z,ZK	4
The subject is inten	ded to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonin	g and to help them	understand
the basic relations	hips between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audien	ce to be able to co	mmunicate
with economists in	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of	products and serv	ices. Every
technician will enco	ounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve th	e operating budge	t. In the field
of management,	hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project mana	gement. For decisi	on-making
ı	ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be	introduced.	
2383001	Fundamentals of Law	Z	2
Basic orientation in	n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provide	le a view into the C	zech Legal
Order, particular se	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
our legal institution	ns, 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 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	ation represents an irreplaceable phenomenon in human activity, as it is present in practically all of his activities. The same applies (with specific modif	ications) to
	the activities of managers. So you can't not communicate - you can only communicate badly, well and excellently.		
K331068	Technology I	Z,ZK	5
Foundry properties	of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of form	ning processes. Se	mi-products,
	heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brasing. Surface treatmen	t.	
K333038	Fundamentals of Technology I.	Z	3
Production proces	ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, techr	nical metals. Produ	ction of pig
iron and steel. Ca	sting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming tech	nnology. Hot and co	old forging.
Free and drop for	orging. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of weld	ding. Fusion weldir	ıg: Flame
	welding and arc welding with coated electrodes. Thermal cutting.		
K341014	Technology II.	Z,ZK	5
			

For updated information see http://bilakniha.cvut.cz/en/FF.html Generated: day 2025-07-27, time 17:49.