Study plan

Name of study plan: 04 26 31 38 BSTR KPP 2012 P 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 full-time

Required credits: 261

Elective courses credits: -21 Sum of credits in the plan: 240

Note on the plan:

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 214

The role of the block: P

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

Name of the group: 07 2012 bakalářský tělocvik

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

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

Credits in the group: 3

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

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

Code of the group: 12B*P*P-ZT21

Name of the group: 04 2012 prezenční ZT v pořadí 21

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:

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Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2333038	Fundamentals of Technology I.	Z	3	1P+1C	*	P

Characteristics of the courses of this group of Study Plan: Code=12B*P*P-ZT21 Name=04 2012 prezenční ZT v pořadí 21

2333038 Fundamentals of Technology I. Z 3

Production processes in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology 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: 12B-KMENP TZI STR

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

Requirement courses in the group: In this group you have to complete 37 courses

Credits in the group: 156

Note on the group: Společné povinné předměty bakalářských programů STR a TZSI

		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
ſ	2371047	Automatic Control	Z,ZK	5	3P+15C+05L	*	Р

2182019	Chemistry Radek Šulc, Martin Dostál, Vojtěch Bělohlav, Jan Skočilas, Adam Krupica, Filip Randák Radek Šulc Radek Šulc (Gar.)	KZ	3	2P+1C	1	Р
2131512	Machine Elements and Mechanisms I. František Lopot	Z,ZK	6	3P+2C	*	Р
2131026	Machine Elements and Mechanisms II František Lopot	ZK	3	3P+0C	*	Р
2141504	Electric Circuits and Electronics Stanislava Papežová, Jan Chyský, Jaroslav Novák, Lukáš Novák Zuzana Sedlecká Jan Chyský (Gar.)	Z,ZK	4	2P+06C+1.4L	*	Р
2141505	Electrical machines and drives Jaroslav Novák	Z,ZK	4	2P+06C+14L	*	Р
2021041	Physics I.	Z,ZK	7	4P+1L	*	Р
2021025	Physics II.	Z,ZK	4	1P+2L	3	Р
2133025	Design František Lopot	Z	4	0P+4C	*	Р
2011021	Constructive Geometry	Z,ZK	6	3P+2C	*	Р
2381054	Management and Economics of the Enterprise	Z,ZK	4	2P+2C	*	Р
2011056	Mathematics I Radka Keslerová, Marta Hlavová, Jiří Holman, Gejza Dohnal, Marta Čertíková, Vladimír Hric, Nikola Pajerová, Petr Louda, Lukáš Hájek, Radka Keslerová Gejza Dohnal (Gar.)	Z,ZK	8	4P+4C	*	Р
2011062	Matematika II. Radka Keslerová	Z,ZK	8	4P+4C	*	Р
2011009	Mathematics III Stanislav Kračmar	Z,ZK	5	2P+2C	*	Р
2311101	Mechanics I. Pavel Bastl, Václav Bauma, Petr Beneš, Ivo Bukovský, Martin Nečas, Zdeněk Neusser, Jan Pelikán, Pavel Steinbauer, Zbyněk Šíka, Zbyněk Šíka Zbyněk Šíka (Gar.)	Z,ZK	4	2P+2C	*	Р
2311102	Mechanics II. Vaclav Bauma	Z,ZK	4	2P+2C	*	Р
2322029	Materials Science I. Jana Sobotová	KZ	3	2P+1L	2	Р
2321039	Materials Science II. Jiří Cejp, Jakub Horník, Jana Sobotová, Elena Čižmárová, Eliška Galčíková, Pavlína Hájková, Jakub Horváth, Stanislav Krum, Vladimír Mára, Jana Sobotová Jana Sobotová (Gar.)	Z,ZK	4	2P+2L	*	Р
2011049	Numerical Mathematics Petr Sváček	Z,ZK	4	2P+2C	4	Р
2012037	Computer Graphics	KZ	3	1P+1C	*	Р
2372041	Computer Support for Study Vladimír Hlaváč	KZ	3	1P+1C	*	Р
2181026	Momentum, Mass and Heat Transfer	Z,ZK	5	3P+1C	*	Р
2131002	Engineering Design II	Z,ZK	4	2P+3C	2	Р
2133013	Engineering Design III. Štěpán Tichý, Jan Hoidekr, Jan Kanaval, František Lopot, David Skalický, Roman Uhlíř Jan Kanaval Jan Kanaval (Gar.)	Z	2	0P+2C	Z	Р
2133014	Engineering Design IV. František Lopot	Z	2	0P+2C	L	Р
2372083	Measurement in Engineering Martin Novák, Vladimír Hlaváč Martin Novák Martin Novák (Gar.)	KZ	3	1P+0C+2L	*	Р
2331068	Technology I.	Z,ZK	5	2P+2C	*	Р
2341014	Technology II.	Z,ZK	5	2P+0C+2L	*	Р
2012035	Algorithmization and Programming Fundamentals Petr Sváček	KZ	4	1P+2C	*	Р
2153005	Fundamentals of Energy Conversions	Z	1	1P+1C	*	Р
2383001	Fundamentals of Law	Z	2	1P+1C	*	Р

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

2371047 Automatic Control Z,ZK 5
Automatic controllers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automatic control theory and practice like transfer functions, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentrates on logic control and control via programmable logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained. Students begin to work with MATLAB software as a common platform of control engineers.

2182019 Chemistry

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, cotter		
(belt, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preload pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple a		
seminar work.	sserribly drills is all	so indispensable
2131026 Machine Elements and Mechanisms II	ZK	3
Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechani	י sm, pipelines and t	heir accessories
and fittings.		
2141504 Electric Circuits and Electronics	Z,ZK	4
Introduction into theory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilized)		
amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor.	er, power control,	operational
2141505 Electrical machines and drives	Z,ZK	4
AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Tra	ansformer, principl	e, construction,
3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, spec	· ·	
control. Synchronous machines. DC-machines, principle, parameters, operating conditions, construction, starting, speed control, speed-torque chara-	acteristic. Low-volta	age instruments.
Low-voltage distribution system. 2021041 Physics I.	Z,ZK	7
Kinematics and dynamics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elasti	1 '	-
waves. Fluid mechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co		
insulators. Magnetic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and in	direct measureme	nts, regression,
measurements of 11 various experiments related to the lectures.	7.71	
2021025 Physics II. Faraday's law of electromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of	Z,ZK	4
of radiation with matter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom a	=	
Spectra, x-rays, ;laser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 e		
2133025 Design	Z	4
Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and	1	
2011021 Constructive Geometry The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.	Z,ZK	6
2381054 Management and Economics of the Enterprise	Z,ZK	4
The subject is intended to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reas	-	
the basic relationships between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the aud with economists in organizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing		
technician will encounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve	· ·	-
of management, they will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project management, they will learn be to use network analysis in project management.	ınagement. For de	cision-making
purposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be introduced.	_	
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2131002	Engineering Design II	Z,ZK	4
	Figure 2 (Section 1) (Section 2) (Section		etrical tolerance.
•	lerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the		
2133013	Engineering Design III.	Z	2
Design of assembly ι	nit (draft drawing, detail drawing, assembly drawing, technical report)		
2133014	Engineering Design IV.	Z	2
2372083	Measurement in Engineering	KZ	3
Overview of sensor p	rinciples for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and	verification of me	easurement
instruments.			
2331068	Technology I.	Z,ZK	5
Foundry properties of	metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of the solid soli	orming processes	. Semi-products,
heating-up. Cutting. C	cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brazing. Surface treatments.		
2341014	Technology II.	Z,ZK	5
mechanics of chip for	mation, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining eco	nomics. Automati	on of processes,
programming of man	ufacture. Engineering metrology. Assembly techniques. Introduction to process planing.		
2012035	Algorithmization and Programming Fundamentals	KZ	4
Programming in MAT	LAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Ma	trices, vectors and	d operations.
Writting M-script. Inpo	ıt and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Sy	stems of linear e	quations. Scripts
and functions. Structu	ıre of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. S	Structures. Algoritl	nmization of
simple programs: mir	imum, 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
2383001	Fundamentals of Law	Z	2
Basic orientation in le	gal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to pro	vide a view into t	he Czech Legal
Order, particular sour	ces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is	s necessary for s	tudents 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 law	s. At the same tin	ne the course
	w some practical habits and processes while putting the law on, especially in domain of contracts and other important legal rela		

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

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

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

Requirement credits in the group: In this group you have to gain 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.	Z,ZK	5	2P+2C+0L	*	Р
2211581	Transmissions	Z,ZK	5	2P+2C	*	Р
2311073	Simulation of Mechanical Systems	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

bilardotorioado di ano dodroco di ano group di otady i iani. dodo-1250 il italio-12 2012 50 ili indoni povinno ta i						
2351110	Modeling and simulation I.	Z,ZK	5			
The subject is focused	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 basic	s 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	KZ	4	0P+6C+0L	*	Р

2212092	Project	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 subj	ect is given by the topic of bachelor's work after consultion with supervisor of bachelor's work or the tutor of the department.		•
2352092	Specialization Project	KZ	4

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	•		
2312092	Department project	KZ	4
Individual asignment		•	
2132092	Project	KZ	4
I			

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	Z,ZK	6	2P+2C	*	Р
2351117		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		
mportance 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 bakalářské povinně volitelné humanitární

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

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

Credits in the group: 2

Note on the group:

Ze skupiny humanitních předmětů nutno j e d e n absolvovat

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2383009	Communication and Dealing with People Jan 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 bakalářské povinně volitelné humanitární

2363009	Communication and Dealing with People	_	
Human communication	represents an irreplaceable phenomenon in human activity, as it is present in practically all of his activities. The same applies	s (with specific me	odifications) to
the activities of manage	rs. So you can't not communicate - you can only communicate badly, well and excellently.		

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

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

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

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

Credits in the group: 2

Note on the group:

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

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 Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.)	Z,ZK	2	0P+2C	*	PV
2041062	German - Bachelor Exam / FME Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z,ZK	2	0P+2C	*	PV
2041065	Russian - Bachelor Exam / FME Hana Volejníková, Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.)	Z,ZK	2	0P+2C	*	PV
2041064	Spanish - Bachelor Exam / FME 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 bakalářské zkoušky z jazyků pro STR a TZIS

2041061	English-Bachelor Exam	Z,ZK	2				
Mapped to the Commor	Mapped to the Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part in discussions,						
to write a summary, a re	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 Commor	European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pa	rt in discussions,				
to write a summary, a re	eport and an essay, to read technical texts, to master grammar at advanced level.						
2041062	German - Bachelor Exam / FME	Z,ZK	2				
Mapped to the Commor	European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pa	rt in discussions,				
to write a summary, a re	eport and an essay, to read technical texts, to master grammar at advanced level.						
2041065	Russian - Bachelor Exam / FME	Z,ZK	2				
Mapped to the Commor	European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	ficulties, to take pa	rt in discussions,				
to write a summary, a re	eport and an essay, to read technical texts, to master grammar at advanced level.						
2041064	Spanish - Bachelor Exam / FME	Z,ZK	2				
Mapped to the Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part in discussions,							
to write a summary, a re	o 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 quarantors (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 fro	An 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 Proiect 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 projektů

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	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 projektů

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	diploma or bachelor work and present it in the face of the other student. The presentation will continue with discussion. Consi	equently, the work	should be				
presented as a pdf file	presented as a pdf file on a temporal web page.						
2183091	Project Presentation	Z	4				
Preparation and preser	Preparation and presentation of a given project theme.						

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

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 R2342 Teoretický základ strojního inženýrství

	povimie u stadijimo programa 62542 reoretičky zaklad strojimo inzertyrstvi.						
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	ZK	3	0P+0C	*	V	
201A056	Mathematics I.A Radka Keslerová	ZK	4	0P+0C	*	٧	
201A062	Mathematics II.A Radka Keslerová	ZK	4	0P+0C	*	V	
201A009	Mathematics III.A Stanislav Kračmar	ZK	2	0P+0C	*	٧	
201A049	Numerical Mathematics A Luděk Beneš	ZK	2	0P+0C	*	٧	

Characteristics of the courses of this group of Study Plan: Code=12BS**V-ALFA Name=02 2012 ALFA voliteIné pro STR

202A041	Physics I.	ZK	3
Kinematics and dynami	cs of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic	properties of bod	ies. Oscillations,
waves. Fluid mechanics	s. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	nductors, semicor	nductors,
insulators. Magnetic fie	ld. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and in	direct measureme	nts, regression,
measurements of 11 va	rious experiments related to the lectures.		
202A025	Physics II.A	ZK	2
Faraday's law of electro	magnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of	electromagnetic w	aves. Interaction
of radiation with matter.	Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom a	nd periodic syster	n of elements.
Spectra, x-rays, ;laser.	Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 e	xperiments related	to the lectures.
201A021	Constructive Geometry A	ZK	3
The subject is focused	on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.		
201A056	Mathematics I.A	ZK	4
Introduction to linear al	gebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable		
201A062	Mathematics II.A	ZK	4
Open and closed set, b	oundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differentiability.	ential operators div	(divergence)
and curl (rotation). Func	tion given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integ	ral, Fubini theorem	ı. Transformation
of integrals to polar, cyl	indrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gi	reen's theorem. A	potential vector
field, independence of a	a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a ve	ctor field through a	a surface. The
Gauss-Ostrogradskij th	eorem.		
201A009	Mathematics III.A	ZK	2
201A049	Numerical Mathematics A	ZK	2

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

Name of the group: 05 2012 doporučené semináře

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

Credits in the group: 0

Note on the group:

Pokud si chce student své dosud získané znalosti (například z matematiky, fyziky, cizích jazyků atd.) doplnit, může si zapsat některý z volitelných předmětů, které příslušné ústavy pro 1. semestr

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

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2026016	Physics - Seminar	Z	2	0P+2C	1	V
2016007	Mathematics I Seminar Radka Keslerová, Luděk Beneš, Hynek Řezníček, Olga Majlingová Radka Keslerová Geiza Dohnal (Gar.)	Z	2	0P+2C	1	V

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

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 doporučené základní jazykové kurzy a prezentace

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

Credits in the group: 0

Note on the group:

Note on the grot	⁴ P.					
Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2046155	English Conversation Ilona Šimice, Michele Le Blanc Ilona Šimice Michele Le Blanc (Gar.)	Z	2	0P+2C	*	V
2046156	English Conversation Michele Le Blanc	Z	2	0P+2C	L	V
2046071	English - Lower Intermediate 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, Michele Le Blanc Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V

2046075	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michael Le Blanc Ilona Šimice Ilona Šimice (Gar.)	Z	2	0P+2C	L	V
2046072	English - Upper Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046073	English - Upper Intermediate Ilona Šimice Ilona 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 Veronika Kratochvilová Ilona Šimice	Z	2	0P+2C	L	V
2046126	Czech Lower Intermediate Jaroslava Kommová	Z	2	0P+2C	L	٧
2046125	Czech Lower Intermediate Jaroslava Kommová	Z	2	0P+2C	Z	٧
2046118	Czech -Advanced Jaroslava Kommová	Z	2	0P+2C	L	٧
2046117	Czech -Advanced Jaroslava Kommová	Z	2	0P+2C	Z	٧
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 Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2046091	French - Advanced 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 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 Dušana Jirovská Michaela Schusová Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2146060	Indonesian Language Course for Exchange	Z	2	0P+2C	*	V
2146061	Technical Indonesian - Course I.	Z	2	0P+2C	Z	V
2144062	Technical Indonesian - Course II.	Z,ZK	3	1P+2C	L	V
2046078	German - Lower Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046079	German - Lower Intermediate Course Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046083	German - Advanced Course Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046082	German - Advanced Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	٧
2046081	German - Upper Intermediate Course Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046080	German - Upper Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046076	German - Beginners Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Petr Laurich (Gar.)	Z	2	0P+2C	Z	V
	German - Beginners	Z	2	0P+2C	L	v
2046077	Jaroslava Kommová, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	_	-	020	_	· ·

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 Vítková	Z	2	0P+2C	*	V
2046137	Russian - Lower Intermediate Course Michaela Schusová, Hana Volejníková, Dušana Jirovská, Eliška Vítková Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046138	Russian - Lower Intermediate Course Hana Volejníková, Dušana Jirovská Dušana Jirovská	Z	2	0P+2C	L	V
2046141	Russian - Advanced Michaela Schusová, Hana Volejníková, Dušana Jirovská, Eliška Vítková Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046142	Russian - Advanced Hana Volejníková, Dušana Jirovská Dušana Jirovská	Z	2	0P+2C	L	V
2046140	Russian - Upper Intermediate 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 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 Jaime Andrés Villagómez Eliška Vítková Jaime Andrés Villagómez (Gar.)	Z	2	0P+2C	L	V
2046098	Spanish - Lower Intermediate Michaela Schusová, Eliška Vítková, Jaime Andrés Villagómez Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046096	Spanish - Beginners Michaela Schusová, Eliška Vítková, Jaime Andrés Villagómez Eliška Vítková Eliška Vítková (Gar.)	Z	2	0P+2C	Z	V
2046097	Spanish - Beginners Jaime Andrés Villagómez Jaime Andrés Villagómez (Gar.)	Z	2	0P+2C	L	V

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

2046155	English Conversation	Z	2
Improving communicati	ve skills in speaking on general topics and general technical topics.	'	
2046156	English Conversation	Z	2
Improving communicati	ve skills in speaking on general topics and general technical topics.	'	
2046071	English - Lower Intermediate	Z	2
Mapped to the Commo	n European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations which	a student meets	either at school
or at his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improvem	ent of profession	al language.
2046070	English - Lower Intermediate	Z	2
Aim: Understanding cle	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a si	mple way about
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language. A1 - A2.		
2046074	English - Advanced	Z	2
The aim: comprehension	on of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Writt	ten and oral skills	on advanced
	ummary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's fie	ld of studies with	out difficulties.
Grammar structures on	advanced level. B1 - B2.		
0040075	Frantish Advenced	7	
2046075	English - Advanced	_	2
Mapped to the Commo	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E	nglish without gr	eat difficulties
Mapped to the Commo and active participation	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and compret	nglish without gr	eat difficulties
Mapped to the Commo and active participation	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and compreh is from student's field of studies without difficulties. Grammar structures on advanced level.	nglish without gr	eat difficulties ar-scientific and
Mapped to the Commo and active participation scientific articles or text 2046072	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and comprel is from student's field of studies without difficulties. Grammar structures on advanced level. English - Upper Intermediate	English without gr nension of popula Z	eat difficulties ar-scientific and
Mapped to the Commo and active participation scientific articles or text 2046072 The aim is to extend lar	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and compret is from student's field of studies without difficulties. Grammar structures on advanced level. English - Upper Intermediate Inguage skills taking into consideration professional English and common professional terminology. Comprehension of standard	English without gr nension of popula Z	eat difficulties ar-scientific and
Mapped to the Commo and active participation scientific articles or text 2046072 The aim is to extend lar	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and comprel is from student's field of studies without difficulties. Grammar structures on advanced level. English - Upper Intermediate	English without gr nension of popula Z	eat difficulties ar-scientific and
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Mapped to the Commo and active participation scientific articles or text 2046072 The aim is to extend lar about topics of everyda 2046073 Mapped to the Commo terminology. Comprehe knowledge. 2046068 Aim: Basic vocabulary of 2046069 Mapped to the Commo	n European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in E in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and comprehension student's field of studies without difficulties. Grammar structures on advanced level. English - Upper Intermediate Inguage skills taking into consideration professional English and common professional terminology. Comprehension of standard by life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 - B1. English - Upper Intermediate In European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional English of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate. English - Beginners of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (p	English without granension of popular and	2 and conversation 2 n professional adening grammar 2 age). A1

2046126	Crack Lower Intermediate	7	2
	Czech Lower Intermediate arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	Z om Writing in a sim	-
_	and comprehension of simple texts. Improvement of professional language.	eni. Winding in a sin	ipie way about
2046125	Czech Lower Intermediate	Z	2
	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	_	_
_	and comprehension of simple texts. Improvement of professional language.	3	. ,
2046118	Czech -Advanced	Z	2
Mapped to the level of	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in 0	Czech without grea	t difficulties and
active participation in a	discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehen	sion of popular-sci	entific and
scientific articles or tex	is from student's field of studies without difficulties. Grammar structures on advanced level.		
2046117	Czech -Advanced	Z	2
Comprehension of spo	en language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in	discussions. Expre	essing opinions
Written skills. Ability to	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 expe	eriences and
	ne's opinions and plans. Reading and understanding general and technical texts.		
2046128	Czech - Upper Intermediate	Z	, 2
1	n European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professiona		-
knowledge technical la	nsion of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on inter	mediale level. Broa	adening the
2046119		Z	2
	Czech Language for Beginners I. Bryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes		2
2046120	Czech Language for Beginners II.	7 7	2
	। Ozectr Language for Degittiers II. n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understar	. – .	_
	minology (professional language).	iding and asc of be	iolo expressioni
2046086	French - Lower Intermediate Course	Z	2
	phat is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wi		
	mprehension of simple texts. Improvement of professional language.	ining in a omipio we	ty about farmia
2046087	French - Lower Intermediate Course	Z	2
	Therion - Lower Intermediate Godise Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which	_	_
	peaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2046091	French - Advanced	7	2
	Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on to	. – .	_
	tive speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading a	-	
	ular scientific and technical articles.	· ·	
2046090	French - Advanced	Z	2
	ken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participation	n in discussions. E	xpressing
opinions. Written skills.	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to	echnical articles.	
2046089	French - Upper Intermediate	Z	2
Mapped to the level of	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students c	omes across at wo	ork, at school,
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	technical texts
2046088	French - Upper Intermediate	Z	2
Understanding standar	d speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abil	ity to describe expe	eriences and
events, briefly explain of	ne's opinions and plans. Reading and understanding general and technical texts.		
2046084	French - Beginners	Z	2
,	what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Wi	riting in a simple wa	ay about familia
topics. Reading and co	mprehension of simple texts. Improvement of professional language.		
2046085	French - Beginners´ Course	Z	2
	Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which		
	peaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	
2146060	Indonesian Language Course for Exchange	Z	2
	nguage for Student Exchange Program to Indonesia		
2146061	Technical Indonesian - Course I.	Z	2
Second part of Indone	ian Language for Student Exchange Program to Indonesia		
2144062	Technical Indonesian - Course II.	Z,ZK	3
Basic of Indonesian La	nguage for Student Exchange Program to Indonesia		
2046078	German - Lower Intermediate Course	Z	2
_	arly what is spoken about everyday situations which a student meets in the company or in his/her free time and speaking ab	out them. Writing ir	n a simple way
	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 which		
	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement		
2046083	German - Advanced Course	Z	2
	Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in	•	-
	in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compress tructures an advanced level.	enension of popula	ir-scientific and
	is from student's field of studies without difficulties. Grammar structures on advanced level.		
2046082	German - Advanced Course	Z	2
l '	ken language as well as lectures in German on topics familiar to the student. Communication with native speakers, participat		⊏xpressing
LUBRICAL SERVICES VALUED SKILLS	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and te	zcnnical articles.	2
2046081	German - Upper Intermediate Course	. – .	_
2046081 Mapped to the level of	German - Opper intermediate Course Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students c Iking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa	comes across at wo	ork, at school,

Indoretanding stand	German - Upper Intermediate Course	Z	2
Jilueistanung stand	lard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. A	bility to describe exp	periences and
events, briefly explai	n one´s opinions and plans. Reading and understanding general and technical texts.		
2046076	German - Beginners	Z	2
Basic vocabulary of	everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (pro	fessional language)	It corresponds
he Common Europe	an Framework of Reference for Languages A1.		
2046077	German - Beginners	Z	2
Mapped to the level	Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understandi	ing and use of basic	expressions of
general scientific ter	ninology (professional language).		
2046161	Presentations in English	Z	2
Preparing students t	o present in English on technical topics, with a possible co-operation with specialized departments.	ı –	_
2046166	Presentations in Czech	Z	2
	o give presentations in English on technical topics, with a possible co-operation with specialized departments.	-	_
2046162	Presentations in German	Z	2
	enting technical topics in German, possibly in cooperation with specialized departments.		
		Z	2
2046164	Presentations in Russian		2
-	enting technical topics in Russian, possibly in cooperation with specialized departments.	7	
2046163	Presentations in French language	Z	2
	enting technical topics in French, possibly in cooperation with specialized departments.		
2046165	Presentations in Spanish	Z	2
	enting technical topics in Spanish, possibly in cooperation with specialized departments.		
2046137	Russian - Lower Intermediate Course	Z	2
Jnderstanding clear	y 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 w	ay about famil
opics. Reading and	comprehension of simple texts. Improvement of professional language.		
2046138	Russian - Lower Intermediate Course	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 so	hool or in his/h
ree time and speaki	ng about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of pr	ofessional language	-
2046141	Russian - Advanced	7	0
_0 10 1 11	1 lussiaii - Auvarioeu		2
	poken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participate	_	ļ.
Comprehension of sp		oation in discussions	l .
Comprehension of spopinions. Written skil	ooken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, particip	oation in discussions	ļ.
Comprehension of spopinions. Written skill 2046142	poken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participals. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and	pation in discussions d technical articles.	Expressing 2
Comprehension of spopinions. Written skill 2046142 Mapped to the level of	poken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participals. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and Russian - Advanced	pation in discussions d technical articles. Z on topics familiar to the	Expressing 2 he student.
Comprehension of spopinions. Written skil 2046142 Mapped to the level of Communication with	poken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participals. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and Russian - Advanced of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian of	pation in discussions d technical articles. Z on topics familiar to the	Expressing 2 he student.
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Comprehension of spopinions. Written skil 2046142 Mapped to the level of Communication with currant issues and population with the currant issues and the currant is the cu	pooken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participe is. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and Russian - Advanced of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian of native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading opular scientific and technical articles. Russian - Upper Intermediate	poation in discussions d technical articles. Z on topics familiar to the grand understanding	2 he student. texts concerning
Comprehension of spopinions. Written skill 2046142 Mapped to the level of Communication with currant issues and population of the level of Mapped to the level of Mapped to the level of th	pooken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participe is. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and Russian - Advanced of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian of native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading opular scientific and technical articles. Russian - Upper Intermediate of Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a student speakers.	poation in discussions d technical articles. Z on topics familiar to the grand understanding Z on the grand understanding to the grand to the	2 he student. texts concerning 2 school, during
Comprehension of spopinions. Written skill 2046142 Mapped to the level of Communication with currant issues and poly 2046140 Mapped to the level of ree time, and talking	pooken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participes. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and Russian - Advanced of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian of native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading opular scientific and technical articles. Russian - Upper Intermediate of Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a studer pabout these topics. Ability to describe experiences and events, briefly explain one's opinions and plans. Reading and under	poation in discussions of technical articles. Z on topics familiar to the grand understanding Z ont meets at work, at estanding general an	2 he student. texts concerni 2 school, during d technical text
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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	Z,ZK	6
'	The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relation	ons.	·

2011049 **Numerical Mathematics** Z,ZK 4 Numerical solution of systems of linear equations, iterative methods. Numerical solution of nonlinear algebraic equations. Least squares method. Numerical solution of ordinary differential equations, initial and boundary value problems. Numerical solution of basic linear partial differential equations by finite difference method. Mathematics I In the course, greater emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and connections between concepts. Students will also get to know the procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic areas: eigennumbers and eigenvectors of a matrix, Taylor polynomial, integral as a limit function, integration of some special functions. Matematika II. Open and closed set, boundary in E/k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differential operators div (divergence) and curl (rotation). Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, Fubini theorem. Transformation of integrals to polar, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Green's theorem. A potential vector field, independence of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector field through a surface. The Gauss-Ostrogradskij theorem. 2012035 Algorithmization and Programming Fundamentals ΚZ Programming in MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matrices, vectors and operations. Writting M-script. Input and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Systems of linear equations. Scripts and functions. Structure of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. Structures. Algorithmization of simple programs: minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of systems of linear equations. Computer Graphics 2012037 K7 3 2016007 Mathematics I. - Seminar Ζ 2 201A009 Mathematics III.A ZK 2 Constructive Geometry A 201A021 ZK 3 The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations. 201A049 ZK Numerical Mathematics A 201A056 Mathematics I.A ZK Introduction to linear algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable ZK 201A062 Mathematics II.A Open and closed set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differential operators div (divergence) and curl (rotation). Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, Fubini theorem. Transformation of integrals to polar, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Green's theorem. A potential vector field, independence of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector field through a surface. The Gauss-Ostrogradskij theorem. 2021025 Physics II. Faraday's law of electromagnetic induction, Maxwell's equations, electromagnetic waves, Light, wave optics, geometrical optics. Quantum properties of electromagnetic waves, Interaction of radiation with matter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and periodic system of elements. Spectra, x-rays, ;laser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 experiments related to the lectures. Physics I. 2021041 Z,ZK Kinematics and dynamics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic properties of bodies. Oscillations, waves. Fluid mechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Conductors, semiconductors, insulators. Magnetic field, Magnetic materials, Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indirect measurements, regression, measurements of 11 various experiments related to the lectures. 2026016 Physics - Seminar Ζ The subject is mainly meant for high-school students for repetition of high-school physics. 202A025 Physics II.A ZK 2 Faraday's law of electromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic waves. Interaction of radiation with matter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and periodic system of elements. Spectra, x-rays, ;laser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 experiments related to the lectures. Physics I. Kinematics and dynamics of a particle motion. Principle of conservation of energy. System of particles, centre of mass. Rigid body. Continuum, elastic properties of bodies. Oscillations, waves. Fluid mechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Conductors, semiconductors, insulators. Magnetic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indirect measurements, regression, measurements of 11 various experiments related to the lectures. 2041061 English-Bachelor Exam 7.7K 2 Mapped to the Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part in discussions, to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level. 2041062 German - Bachelor Exam / FME Z,ZK 2 Mapped to the Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part in discussions to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level. 2041063 French - Bachelor Exam /FME 2 Mapped to the Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part 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 Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part 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 2 Mapped to the Common European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficulties, to take part in discussions, to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level. 2046068 Z English - Beginners 2 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (professional language). A1

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opinions. written skills. Ability to write an essay or a report. Heading and understanding texts concerning currant issues and popular scientific and technical articles.	•			
	opinions. \	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a	nd technical article	es.

2046091 French - Advanced Z 2	
Mapped to the level of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in French on topics familiar to the student.	
Communication with native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and understanding texts concern	ing
currant issues and popular scientific and technical articles.	Ū
2046096 Spanish - Beginners Z 2	
Aim:Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about	ut
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 i	n
his/her free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046098 Spanish - Lower Intermediate Z 2	
Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about fami	liar
topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046099 Spanish - Lower Intermediate Z 2	
Mapped to the level of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student meets at school or in his/l	ner
free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046117 Czech -Advanced Z 2	
Comprehension of spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discussions. Expressing opinion	ns.
Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical articles.	
2046118 Czech -Advanced Z 2	
Mapped to the level of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech without great difficulties a	and
active participation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehension of popular-scientific and	
scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.	
2046119 Czech Language for Beginners I. Z 2	
Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language)	
2046120 Czech Language for Beginners II. Z 2	
Mapped to the Common European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding and use of basic expression	ne
of general scientific terminology (professional language).	1110
2046125 Czech Lower Intermediate Z 2	
Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about	n it
familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	uı
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Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about them. Writing in a simple way about the student meets at school or in his/her free time and speaking about them. Writing in a simple way about them.	uı
familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech - Unper Intermediate 7 2	
25011 00001 11101111041410	
Understanding standard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability to describe experiences are	a
events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	
2046128 Czech - Upper Intermediate Z 2	
Mapped to the Common European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Czech and common professional common professional care and care and common professional care and c	
terminology. Comprehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening the knowledge technical language.	,
2046135 Russian - Beginners Z 2	
Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language)	
2046136	
Mapped to the level of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expression	าร
of general scientific terminology (professional language)	
2046137 Russian - Lower Intermediate Course Z 2	
Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about family	iar
topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046138 Russian - Lower Intermediate Course Z 2	.
Mapped to the level of Common European Framework of Reference: A2 Understanding clearly what is spoken about everyday situations which a student meets at school or in his/	ner
free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	
2046139 Russian - Upper Intermediate Z 2	.
Understanding standard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability to describe experiences are	d
events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	
2046140 Russian - Upper Intermediate Z 2	
Mapped to the level of Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work, at school, during the standard speech about familiar matters that a student meets at work at school speech about familiar matters that a student meets at work at school speech about familiar matters that a student meet school speech about familiar matters that a student meet school speech about familiar matters at school speech about famili	- 1
free time, and talking about these topics. Ability to describe experiences and events, briefly explain one's opinions and plans. Reading and understanding general and technical	ts.
2046141 Russian - Advanced Z 2	
Comprehension of spoken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participation in discussions. Expressing	j
opinions. Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical articles.	
2046142 Russian - Advanced Z 2	
Mapped to the level of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian on topics familiar to the student.	
Communication with native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading and understanding texts concern	ing
currant issues and popular scientific and technical articles.	
2046155 English Conversation Z 2	
Improving communicative skills in speaking on general topics and general technical topics.	
2046156 English Conversation Z 2	
Improving communicative skills in speaking on general topics and general technical topics.	
D 1 1 1 5 1 1 1 2 1 2 1 1 2 1 2 1 2 1 2 1	
2046161 Presentations in English Z 2	- 1

2046162	Presentations in German	Z	2
0040400	Preparation for presenting technical topics in German, possibly in cooperation with specialized departments.		
2046163	Presentations in French language Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.	Z	2
2046164	Presentations in Russian Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.	Z	2
2046165	Presentations in Spanish Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.	Z	2
2046166	Presentations in Czech	Z	2
2112092	Preparing students to give presentations in English on technical topics, with a possible co-operation with specialized departs Department Project	Ments.	4
2122092	Department Project	KZ	4
Th	ne content of the subject is given by the topic of bachelor's work after consultion with supervisor of bachelor's work or the tutor of the	ne department.	<u>'</u>
2131002	Engineering Design II PS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surfac	Z,ZK	4
	os, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the	=	
2131026	Machine Elements and Mechanisms II	ZK	3
	design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism and fittings.	n, pipelines and thei	accessori
2131120	Design of Steel Structures	Z,ZK	6
2131512	Machine Elements and Mechanisms I.	Z,ZK	6
(belt, chain, friction	ements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, on, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preload d key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assonance seminar work.	ed connecting bolts	, clamped,
2132092	Project	KZ	4
Elaboration of sem	nester global project of mechanical drive of conveyor composed of electric motor, elastic shaft coupling (respectively V-belt drive), g	gearbox provided wi	th two pair
of previous gearbox	compensating double-row toothed shaft coupling (respectively roller chain drive). Second, alternative arrangement of projected med and additional mechanical drives by means of only one single-stage warm gearbox. Elaboration of 4 additional reports analysing protein element (gearbox shaft or gear). Besides project of mechanical drive must be elaborated design project of crank mechanism single-cylinder piston engine.	oduction and econor	mic probler
2133013	Engineering Design III. Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)	Z	2
2133014	Engineering Design IV.	Z	2
2133025	Design		4
	design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft cou	_	1
2141504	Electric Circuits and Electronics	Z,ZK	4
Introduction into the	eory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators o electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabiliz		
oddollolo	amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microp		poranoriai
2141505	Electrical machines and drives	Z,ZK	4
	ctrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Tran		onstructio
•	ner, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, spee is machines. DC-machines, principle, parameters, operating conditions, construction, starting, speed control, speed-torque charact Low-voltage distribution system.	•	
2144062	Technical Indonesian - Course II. Basic of Indonesian Language for Student Exchange Program to Indonesia	Z,ZK	3
2146060	Indonesian Language Course for Exchange Basic of Indonesian Language for Student Exchange Program to Indonesia	Z	2
2146061	Technical Indonesian - Course I.	Z	2
2152091	Second part of Indonesian Language for Student Exchange Program to Indonesia	KZ	2
	Departmental Project		+
2153005	Fundamentals of Energy Conversions	Z	1
2153091	Presentation of Project	Z	4
2181026	Momentum, Mass and Heat Transfer ransport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanic	Z,ZK	Besidence
	continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and the		
2182019	systems. Mass transfer by molecular diffusion, convection, with chemical reactions and interphase mass transfer. Chemistry	KZ	3
General chemistry	Chemistry / from the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and propertic chemistry forms 2/3 of the course (structure and propertic chemistry (hydrocarbons, polymers) and block	es of matter, thermo	odynamics
priase equilibrium	, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and bioch oriented upon the material properties measurement.	iernien y. Laburatury	practice is
2182091	Project	KZ	2
2183091	Absolvent se seznámí se základy oboru Procesní technika. Project Presentation	Z	4
	Preparation and presentation of a given project theme.	<u>'</u>	'
•	Transmissions s a general summary of transmissions for various applications which the student in the specialization designer-calculator meets. To bort machines will be briefly explained, important calculations will be discussed in more detail on the examples of transmission devices.		-

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 guirements.	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 sys There are introduced the methods of description of position and motion of particles and rigid bodies.		•
2311102	Mechanics II.	Z,ZK	4
Kinematics of point	t and of rigid bodies. Transformation matrix. Kinematics of concurrent movements. Motion: translation, rotation, general planar motion, s	pherical motion, sc	rew motion,
general spatial mot	tion. Composition of mechanisms. Basic planar mechanisms. Analytical methods in kinematics of mechanisms - Trigonometric and vect in kinematics. Basic theory of gearing. Transmition mechanisms with geers. Strutting and seezing in mechanisms. Cable mechan	•	cal methods
2312092	Department project Individual asignment	KZ	4
2321039	Materials Science II.	Z,ZK	4
Fundamentals of n	netallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and the technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materi		processing,
2322029	Materials Science I.	KZ	3
	ent state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, defor	-	
	erials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, ir		
2331068	Technology I.	Z,ZK	5
Foundry properties	of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of form		ni-products,
	heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brazing. Surface treatment		
2333038	Fundamentals of Technology I.	Z	3
-	sses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, techr sting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming tech		
	orging. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of weld	٠.	
Tree and drop it	welding and arc welding with coated electrodes. Thermal cutting. Welding and arc welding with coated electrodes. Thermal cutting.	aling. I asion welalin	g. r iaino
2341014	Technology II.	Z,ZK	5
	formation, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining econor		_
ouridanido di dinip	programming of manufacture. Engineering metrology. Assembly techniques. Introduction to process planing.		p. 0000000,
2351110	Modeling and simulation I. The subject is focused on explanation of the design of machine tool axis by individual parts and components.	Z,ZK	5
2351117		Z,ZK	5
2001117	Importance of fluid mechanisms and drives, principle, design and use. Divided on two parts - Hydraulics and Pneumatics.	_,_,	
2352092	Specialization Project	KZ	4
	sed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge		-
	nachines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations	•	
professional solut	ion of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning.	erformed, the cohe	erence and
2362091	Project	KZ	2
2363091	Project Presentation	Z	4
2371047	Automatic Control	Z,ZK	5
	lers are important part of many industrial processes. The goal of this course is to introduce students into basic knowledge of automat		
like transfer functio	ns, open versus closed loop control, design of controllers and frequency based analysis of control systems. The course also concentrate	tes on logic control	and control
via programmab	le logic controllers. Some seminaries are arranged in laboratories where practical skills and control engineering methods are trained.	Students begin to	work with
	MATLAB software as a common platform of control engineers.		
2372041	Computer Support for Study	KZ	3
	ces students into creating technical and professional documents on computers or Web and into realizing technical computations with t	=	
	al skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating techni		
2372083	Measurement in Engineering	KZ	3
Overview or sen	sor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and instruments.	verification of meas	Surement
2372091		KZ	2
2372091	Project An individual project from the branch of specialisation, which student will study on his/her magister level	12	2
2373091	Project presentation	Z	4
	pachelor work presentation. Student should study the presentation software possibilities and proposition of the department. Student sh		-
I -	n of his diploma or bachelor work and present it in the face of the other student. The presentation will continue with discussion. Conse		
	presented as a pdf file on a temporal web page.	7	
2381054	Management and Economics of the Enterprise	Z,ZK	4
	inded to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonin		understand
the basic relations	ships between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audience	ce to be able to co	mmunicate
with economists i	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 servi	ces. Every
	punter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the		
1	they will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project managerial functions and their content.	_	on-making
	purposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be		
2383001	Fundamentals of Law	Z	2
	n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid		- 1
1	ources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no	·=	
_	ons, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws.		
ieaus siuderiis iõ K	now some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relation to prepare professional presentations and to understand basic structures between law and engineering	οι τρο απά το πιακέ	mem ready

l	2383009	Communication and Dealing with People	Z	2
١	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			
l	the activities of managers. So you can't not communicate - you can only communicate badly, well and excellently.			

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