Study plan

Name of study plan: 13 80 85 00 DVES 2012 P úvodní studijní plán

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: 233

Elective courses credits: -52 Sum of credits in the plan: 181

Note on the plan: SP12BVES-EKO-P # první pokus

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 224

The role of the block: P

Code of the group: 12BVP4P

Name of the group: 09 2012 BVES 4.sem prezen ní povinné

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 5 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
2342005	Quality Control	KZ	2	1P+1C+1L	*	Р
2341014	Technology II.	Z,ZK	5	2P+0C+2L	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BVP4P Name=09 2012 BVES 4.sem prezen ní povinné

2342005	Quality Control	KZ	2				
Basic quality control terms, where is quality created, who is responsible for a quality. Basic statistical terms and distributions. Statistical methods: statistical process control, statistical							
sampling. Tools and m	ethods for a quality assurance during product lifetime cycle. Standards 9 000 and 14 000, certification of quality control system	ns.					
2341014	Technology II.	Z,ZK	5				
mechanics of chip forr	nation, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining eco	nomics. Automat	ion of processes,				
programming of many	facture. Engineering metrology. Assembly techniques. Introduction to process planing						

Code of the group: 12BV*5P

Name of the group: 12 2012 BVES 5.sem povinné

Requirement credits in the group: In this group you have to gain 11 credits

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

Credits in the group: 11 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
2141204	Introduction to Electrical Engineering for Technology Jan Chyský, Lubomír Musálek, Martin Novák Lubomír Musálek Jan Chyský (Gar.)	Z,ZK	4	2P+0C+2L	*	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=12BV*5P Name=12 2012 BVES 5.sem povinné

Introduction to Electrical Engineering for Technology Z,ZK 4
Elements of electrical circuits, analysis of electrical circuits as DC and AC. El. Power and Energy. Principle and typical parameters diodes, transistors, thyristors, operation amplifiers.

Analogue and digital circuits. AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Transformer. Induction machines. Synchronous machines.

DC-machines

2383001 Fundamentals of Law Z 2

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: 12BV*5P-EKO

Name of the group: 14 2012 BVES 5.sem zam EKO povinné

Requirement credits in the group: In this group you have to gain 18 credits

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

Credits in the group: 18 Note on the group:

Code of the group: 12BV*5P-MAT

Name of the group: 14 2012 BVES 5.sem zam MAT povinné

Requirement credits in the group: In this group you have to gain 18 credits

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

Credits in the group: 18 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
2341001	Metrology	Z,ZK	5	2P+0C+2L	*	Р
2331505	Welding Technology	Z,ZK	4	2P+1C	*	Р
2322041	Heat treatment Jana Sobotová, Martin Ku ík Jana Sobotová Jana Sobotová (Gar.)	KZ	4	2P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BV*5P-MAT Name=14 2012 BVES 5.sem zam MAT povinné

2341001	Metrology	Z,ZK	5					
Metrology, intergration in	Metrology, intergration into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and secondary standarts. Measurement							
in 1, 2, end 3 coordinate	in 1, 2, end 3 coordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure - roughness, wawiness.							
Measurement automati	Measurement automatisation.							
2331505	Z,ZK	4						

2331505	Welding Technology	Z,ZK	4
2322041	Heat treatment	KZ	4
Theoretical fundamenta	ls of heat treatment, basic processes of heat and chemical-heat treatment of ferrous and non-ferrous metals, excursion focus	sed on the given to	opic

Code of the group: 12BV*5P-OBR

Name of the group: 14 2012 BVES 5.sem zam OBR povinné

Requirement credits in the group: In this group you have to gain 17 credits

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

Credits in the group: 17 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
2342032	Automation of machine tool programming	KZ	3	1P+2C	*	Р
2341515	Manufacturing process planning	Z,ZK	4	2P+2C	*	Р
2341001	Metrology	Z,ZK	5	2P+0C+2L	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BV*5P-OBR Name=14 2012 BVES 5.sem zam OBR povinné

2341001	Metrology	Z,ZK	5					
Metrology, intergration in	Metrology, intergration into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and secondary standarts. Measurement							
in 1, 2, end 3 coordinate	1, 2, end 3 coordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure - roughness, wawiness.							
Measurement automatis	feasurement automatisation.							
2342032	Automation of machine tool programming	KZ	3					

Utilizations of computer	r technique for preparation of NC programs for lathe and milling machinery. Utilizations of probes on CNC machine tool.		·
22/15/15	Manufacturing process planning	7 7K	1

Objective of the course in terms of learning outcomes and competences. The aim of the course is to acquaint students with modern approaches and methodology of designing machining processes with regard to minimization of material consumption and economic efficiency of the machining process. Next, introducing students to the designing of assembly processes with respect to technical and organizational conditions. Further, the aim of the subject is to explain the issue of standardization of work with regard to the type of process and the type

of performed activity

Code of the group: 12BV*5P-TVA

Name of the group: 14 2012 BVES 5.sem zam TVA povinné

Requirement credits in the group: In this group you have to gain 17 credits

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

Credits in the group: 17 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
2332038	Surface Treatment Technology	KZ	4	1P+2C	*	Р
2331505	Welding Technology	Z,ZK	4	2P+1C	*	Р
2322041	Heat treatment Jana Sobotová, Martin Ku ík Jana Sobotová Jana Sobotová (Gar.)	KZ	4	2P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BV*5P-TVA Name=14 2012 BVES 5.sem zam TVA povinné

	<u> </u>		
2331505	Welding Technology	Z,ZK	4
2322041	Heat treatment	KZ	4
Theoretical fundament	als of heat treatment, basic processes of heat and chemical-heat treatment of ferrous and non-ferrous metals, excursion focus	sed on the given t	opic
2332038	Surface Treatment Technology	KZ	4

TPU The course is an introduction to the topic of finishes (meaning and objectives of the field). They are introduced to the basics of corrosion distribution and its species. TPU focuses on corrosion protection in engineering and other industries. Are reconstructed surface preparation processes (mechanical, chemical). Among the discussed technologies finishes include coating technologies (such as electroplating, zinc plating) technology conversion layers, further application of organic coatings. An important issue is also ecological aspects, Technological design and testing in the field of surface treatment.

Code of the group: 12BV*6P

Name of the group: 15 2012 BVES 6.sem povinné

Requirement credits in the group: In this group you have to gain 9 credits

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

Credits in the group: 9 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
2331071	Automation of Production Processes	Z,ZK	5	3P+2C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BV*6P Name=15 2012 BVES 6.sem povinné

Automation of Production Processes

Automation of basic technological processes - casting, welding, forming and finishing. Facilities and equipment required to automate offices. Mechanization and automation in iron and steel foundries. Automation and robotics of die casting process, including other peripherals. Designing and programming of robotic welding centers. Designing and programming of robotic workstations for sheet metal forming. Design of automated forging cells. Design of automated finishing lines.

Code of the group: 12BV*6P-EKO

Name of the group: 16 2012 BVES 6.sem zam EKO povinné

Requirement credits in the group: In this group you have to gain 21 credits

Requirement courses in the group: In this group you have to complete 5 courses

Credits in the group: 21 Note on the group:

Code of the group: 12BV*6P-MAT

Name of the group: 16 2012 BVES 6.sem zam MAT povinné

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 5 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
2323993	Bachelor Thesis Jana Sobotová	Z	5	0P+6C	*	Р
2321501	Jana Sobotová	Z,ZK	4	3P+1C	*	Р
2321503	Technical testing of materials	Z,ZK	5	2P+2C+0L	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BV*6P-MAT Name=16 2012 BVES 6.sem zam MAT povinné

2323993	Bachelor Thesis	Z	5
2321501		Z,ZK	4
The course characterize	es individual groups of new construction materials. In addition to the development and physical nature of these materials, the	most commonly	used types of

The course characterizes individual groups of new construction materials. In addition to the development and physical nature of these materials, the most commonly used types of recently developed materials, their basic characteristics and mechanical properties are listed. Their technological possibilities, design applicability and methods of their designations are also presented.

2321503 Technical testing of materials

Z,ZK

5

Term and definition of properties. Verification of properties in a certified quality management system. Accredited test laboratory and test systems, test standard. Basic mechanical properties and testing the characteristics of metals, polymers, composites and ceramics. Testing of material for the limited state is the basic methods in accordance with the relevant standards. Test of resistance to brittle fracture, fatique, creep. Evaluation of technological properties. Defectoscopic method for detecting defects in the material.

Code of the group: 12BV*6P-OBR

Name of the group: 16 2012 BVES 6.sem zam OBR povinné

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 5 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
2343993	Bachelor thesis	Z	5	0P+6C	*	Р
2341002	Cutting tools	Z,ZK	4	2P+1C	*	Р
2341068	Special machining technology	Z,ZK	5	3P+2C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BV*6P-OBR Name=16 2012 BVES 6.sem zam OBR povinné

2343993 Bachelor thesis Z 5
Sources of information in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Principles of research and work

in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a thesis.

2341002 | Cutting tools

Cutting tools

Cutting tools characteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and measurement. Cutting tools elements design. Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools, etc.). Special cutting tools. Grinding, use and maintenance of cutting tools.

2341068 Special machining technology

Z,ZK

5

Development of cutting material, cutting speed development and consequences on the properties of surface finish. Hard and precision machining, engineering economics and ecology. Influence of surface layer and selecting methods of machining process parameters. New methods of abrasive machining, grinding of ceramics, grinding difficult-materials. Expert, adaptive and intelligent control systems, abrasive processes. Physical methods of machining, manufacturing methods and gear threading, finishing methods. Technology in the aerospace industries, automotive, energy and other areas.

Code of the group: 12BVP6P-TVA

Name of the group: 16 2012 BVES 6.sem zam TVA prez povinné

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 5 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
2333993	Bachelor Thesis	Z	5	0P+6C	*	Р
2332056	Preparations and Tools	KZ	3	0P+3C	*	Р
2331065	Design Consideration	Z,ZK	5	3P+1C	*	Р
2331506	Casting and Forming Technology	Z,ZK	5	3P+2C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12BVP6P-TVA Name=16 2012 BVES 6.sem zam TVA prez povinné

2333993 **Bachelor Thesis** 2332056 **Preparations and Tools** ΚZ 3 Principles of selection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production processes for forgings. Accuracy, stock material, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production processes for weldments. Operational sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping. Z,ZK 2331065 **Design Consideration** Relations between design, production technique and economic aspects. Design considerations in casting, forming, welding, machining and assembly techniques. Basis for material and production technology selection. Component detailing for manufacture. CNC basis and using CNC. Casting and Forming Technology Principles of selection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production processes for forgings, extrusion. Accuracy, stock material, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping.

Code of the group: 12DVP1P-KMEN

Name of the group: 00 2012 D kmenové 1. semestr VES prezen ní

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

Credits in the group: 0 Note on the group:

12B**1P-KMEN #

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2182019	Chemistry Radek Šulc, Martin Dostál, Vojt ch B lohlav, Stanislav Solna , Jan Sko ilas Radek Šulc Radek Šulc (Gar.)	KZ	3	2P+1C	1	Р
2011021	Constructive Geometry Ivana Linkeová	Z,ZK	6	3P+2C	*	Р
2011056	Mathematics I Radka Keslerová, Marta Hlavová, Ji í Holman, Gejza Dohnal, Marta ertíková, Vladimír Hric, Nikola Pajerová, Petr Louda, Lukáš Hájek, Radka Keslerová Gejza Dohnal (Gar.)	Z,ZK	8	4P+4C	*	Р
2372041	Computer Support for Study	KZ	3	1P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12DVP1P-KMEN Name=00 2012 D kmenové 1. semestr VES prezen ní

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.

2011021	Constructive Geometry	Z,ZK	6
The subject is focused of	on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations.		
2011056	Mathematics I	Z,ZK	8

In the course, 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.

2372041 Computer Support for Study

The course introduces students into creating technical and professional documents on computers or Web and into realizing technical computations with the use of computers. Students gain practical skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating technical-based WWW page.

Code of the group: 12DVP2P-KMEN

Name of the group: 00 2012 D kmenové 2. semestr VES prezen ní

Requirement credits in the group: In this group you have to gain 25 credits

Requirement courses in the group: In this group you have to complete 5 courses

Credits in the group: 25

Note on the group:

12B**2P-KMEN #

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2021041	Physics I.	Z,ZK	7	4P+1L	*	Р
2011062	Matematika II. Radka Keslerová	Z,ZK	8	4P+4C	*	Р
2322029	Materials Science I. Jana Sobotová, Eliška Gal íková, Ji í Cejp, Pavlína Hájková, Jan Kr il, Vladimír Mára, Lucie Pilsová, Ta ana Vacková Jana Sobotová Jana Sobotová (Gar.)	KZ	3	2P+1L	2	Р
2012037	Computer Graphics Marta Hlavová, Ji í Holman, Nikola Pajerová, Martin Hanek, Jan Karel, Ivana Linkeová, Jaroslav Cibulka Ivana Linkeová Ivana Linkeová (Gar.)	KZ	3	1P+1C	*	Р

2333017	Surface Treatment	Z	3	1P+1C	*	Р
2131002	Engineering Design II Eliška Cézová, Jan Flek, Jan Kanaval, Karel Petr, Martin Dub, Martin Havlí ek, Jan Hoidekr, František Lopot, Roman Uhlí Karel Petr Karel Petr (Gar.)	Z,ZK	4	2P+3C	2	Р
2333038	Fundamentals of Technology I.	Z	3	1P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12DVP2P-KMEN Name=00 2012 D kmenové 2. semestr VES prezen ní

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, elastic properties of bodies. Oscillations, waves. Fluid mechanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Conductors, semiconductors, insulators. Magnetic field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indirect measurements, regression, measurements of 11 various experiments related to the lectures.

2011062 Matematika II. Z,ZK 8

Open and closed set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differential operators div (divergence) and curl (rotation). Function given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, Fubini theorem. Transformation of integrals to polar, cylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Green's theorem. A potential vector field, independence of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector field through a surface. The Gauss-Ostrogradskij theorem.

2322029 Materials Science I. KZ 3
History and present state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, deformation, recrystallization and

fracture of materials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, iron-carbon phase diagram.

 2012037
 Computer Graphics
 KZ
 3

 2333017
 Surface Treatment
 Z
 3

Introduction to the surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive prevention in manufacturing, method anticorrosive prevention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. Organic coatings. Ecological aspects of surface treatments

2131002 | Engineering Design II | Z,ZK |

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

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 Hot and cold forging and steel. Casting, modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Hot and cold forging

Production processes in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology. 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: 12DVP3P-KMEN

Name of the group: 00 2012 D kmenové 3. semestr redukované pro VES prezen ní

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

Credits in the group: 0

Note on the group:

12BV*3P-KMEN-R #

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2021025	Physics II.	Z,ZK	4	1P+2L	3	Р
2011009	Mathematics III Radka Keslerová, Ji í Holman, Gejza Dohnal, Marta ertíková, Vladimír Hric, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Tomáš Neustupa, Stanislav Kra mar Stanislav Kra mar (Gar.)	Z,ZK	5	2P+2C	*	Р
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
2331068	Technology I.	Z,ZK	5	2P+2C	*	Р

Characteristics of the courses of this group of Study Plan: Code=12DVP3P-KMEN Name=00 2012 D kmenové 3. semestr redukované pro VES prezen ní

2021025	Physics II.	Z.ZK	4					
Faraday's law of electromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic waves. Interaction								
1	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. I	Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 e	xperiments relate	d to the lectures.					
2011009	Mathematics III	Z,ZK	5					
An introductory course	in ordinary differential equation and infinite series.	•	'					
2321039	Materials Science II.	Z,ZK	4					
Fundamentals of metall	urgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal an	id thermo-mechai	nical processing,					
technical iron-carbon al	loys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materials.							
2331068	Technology I.	Z,ZK	5					
Foundry properties of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of forming processes. Semi-products,								
heating-up Cutting Col	eating-up Cutting Cold and hot forming Walds Waldshility Waldment testing Thermal cutting Brazing Surface treatments							

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 9

The role of the block: PV

Code of the group: 12BV*4Q-BZJ VES

Name of the group: 11 2012 bakalá ské zkoušky z jazyk pro VES

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:

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=12BV*4Q-BZJ VES Name=11 2012 bakalá ské zkoušky z jazyk pro

2041061	English-Bachelor Exam	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	eport 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	iculties, 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	iculties, 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	iculties, 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: 12BV*4Q-ZAM

Name of the group: 10 2012 BVES 4.sem zam 1povvol

Requirement credits in the group: In this group you have to gain at least 5 credits (at most 10)

Requirement courses in the group: In this group you have to complete at least 1 course (at most 2)

Credits in the group: 5 Note on the group:

rioto 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
2321067	Technical Application of Materials Stanislav Krum	Z,ZK	5	3P+1C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12BV*4Q-ZAM Name=10 2012 BVES 4.sem zam 1povvol

2321067	Technical Application of Materials			Z,ZK	5
P edm t popisuje apliko	ovatelnost jednotlivých skupin inženýrských materiál	a jejich odpovídající vlastnosti. Rovn	ž se v nuje aktuálním vývojovým t	rend m t chto ski	upin. The subject

describes applicability of specific engineering material types and their characteristics. It deals with the current development trends in these materials as well.

Code of the group: 12BV*5Q-OP

Name of the group: 13 2012 BVES 5.sem 1povvol oborové projekty

Requirement credits in the group: In this group you have to gain at least 2 credits (at most 8)

Requirement courses in the group: In this group you have to complete at least 1 course (at most 4)

Credits in the group: 2 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2322091	Project Jana Sobotová, Ji í Cejp, Pavlína Hájková, Jan Kr il, Vladimír Mára, Ta ana Vacková, Jakub Horník, Ladislav Cvr ek, Elena ižmárová, Jana Sobotová Jana Sobotová (Gar.)	KZ	2	0P+2C	*	PV
2332091	Project	KZ	2	0P+2C	*	PV
2342091	Project	KZ	2	0P+2C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12BV*5Q-OP Name=13 2012 BVES 5.sem 1povvol oborové projekty

On the basis of the preliminary submission of a bachelor thesis the students, under supervision of their supervisors, prepare a review summarizing and evaluating the studied literature with particular emphasis on experimental technologies which can be applied in their bachelor theses. They can also mention a planned experiment or evaluate hitherto obtained knowledge or results.

2332091	Project	KZ	2
2342091	Project	KZ	2
Work on specialized ta	sks.		

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

The role of the block: V

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

Name of the group: 02 2012 ALFA volitelné pro VES

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

Credits in the group: 0 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
202A041	Physics I.	ZK	3	0P+0L	*	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

Characteristics of the courses of this group of Study Plan: Code=12BV**V-ALFA Name=02 2012 ALFA volitelné pro VES

202A041 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.

201A021	Constructive Geometry A	ZK	3			
The subject is focused						
201A056	Mathematics I.A	ZK	4			
Introduction to linear algebra, analytic geometry of straight lines and planes in E3, calculus of functions of one variable						
201A062	Mathematics II.A	ZK	4			

Open and closed set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. 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.

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

Name of the group: 05 2012 doporu ené seminá e

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

Credits in the group: 0

Note on the group:

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

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

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2026016	Physics - Seminar	Z	2	0P+2C	1	٧
2016007	Mathematics I Seminar Radka Keslerová, Hynek ezní ek, Olga Majlingová Radka Keslerová Gejza Dohnal (Gar.)	Z	2	0P+2C	1	٧

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	neant for high-school students for repetition of high-school physics.		
2016007	Mathematics I Seminar	Z	2

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

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

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

Credits in the group: 0 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2046155	English Conversation Ilona Šimice, Michele Le Blanc Ilona Šimice Michele Le Blanc (Gar.)	Z	2	0P+2C	*	V
2046156	English Conversation Ilona Šimice, Michele Le Blanc	Z	2	0P+2C	L	V
2046071	English - Lower Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová	Z	2	0P+2C	L	V
2046070	English - Lower Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	z	V
2046074	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michele Le Blanc Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046075	English - Advanced Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová, Michele Le Blanc Ilona Šimice Ilona Šimice (Gar.)	Z	2	0P+2C	L	V
2046072	English - Upper Intermediate Ilona Šimice, Michaela Schusová, Hana Volejníková, Veronika Kratochvílová Michaela Schusová Ilona Šimice (Gar.)	Z	2	0P+2C	Z	V
2046073	English - Upper Intermediate Ilona Šimice, 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 (Gar.)	Z	2	0P+2C	Z	V
2046089	French - Upper Intermediate Michaela Schusová, Dušana Jirovská Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2046088	French - Upper Intermediate Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046084	French - Beginners Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046085	French - Beginners' Course Michaela Schusová, Dušana Jirovská Michaela Schusová Dušana Jirovská (Gar.)	Z	2	0P+2C	L	V
2146060	Indonesian Language Course for Exchange	Z	2	0P+2C	*	V
2146061	Technical Indonesian - Course I.	Z	2	0P+2C	Z	V
2144062	Technical Indonesian - Course II.	Z,ZK	3	1P+2C	L	V
2046078	German - Lower Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046079	German - Lower Intermediate Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046083	German - Advanced Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046082	German - Advanced Course Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	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 Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	Z	V
2046076	German - Beginners Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Michaela Schusová Petr Laurich (Gar.)	Z	2	0P+2C	Z	V
2046077	German - Beginners Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Eliška Vítková Jaroslava Kommová (Gar.)	Z	2	0P+2C	L	V
2046161	Presentations in English Michaela Schusová	Z	2	0P+2C	*	V
2046166	Presentations in Czech Jaroslava Kommová	Z	2	0P+2C	*	V
2046162	Presentations in German Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z	2	0P+2C	*	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 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

kurzy a prezenta	ce		
2046155	English Conversation	Z	2
Improving communication	tive skills in speaking on general topics and general technical topics.		
2046156	English Conversation	Z	2
Improving communication	tive skills in speaking on general topics and general technical topics.		
2046071	English - Lower Intermediate	Z	2
Mapped to the Comm	on European Framework of Reference Level A2 Aim: Understanding clearly spoken language about everyday situations whic	h a student meets	either at school
or at his/her free time	and speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improve	nent of professiona	al language.
2046070	English - Lower Intermediate	Z	2
Aim: Understanding of	learly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about th	em. Writing in a sir	nple way about
familiar topics. Readir	ng and comprehension of simple texts. Improvement of professional language. A1 - A2.		
2046074	English - Advanced	Z	2
	ion of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Wr	itten 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 fi	eld of studies withou	out difficulties.
Grammar structures	on advanced level. B1 - B2.		
2046075	English - Advanced	Z	2
	on European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in	English without gre	l
1	on in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay reading and compr	-	
scientific articles or te	xts from student's field of studies without difficulties. Grammar structures on advanced level.		
2046072	English - Upper Intermediate	Z	2
	anguage skills taking into consideration professional English and common professional terminology. Comprehension of standal	า rd English speech ส	and conversation
	day life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 - B1.		
2046073	English - Upper Intermediate	7	2
	on European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional E	nglish and commor	_
	ension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on inter	•	•
knowledge.			
2046068	English - Beginners	7	2
	y of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (professional langua	age). A1
2046069	English - Beginners	7	2
	on European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understa	nding and use of b	l
	rminology (professional language).		
2046126	Czech Lower Intermediate	7	2
	learly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the		-
_	ng and comprehension of simple texts. Improvement of professional language.		p.oay about
2046125	Czech Lower Intermediate	7	2
	learly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the		_
_	ng and comprehension of simple texts. Improvement of professional language.	om. writing in a on	iipio way about
2046118	Czech -Advanced	7	2
	Ozeon -Advanced f Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in	Czech without are:	
	a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehe	_	
	at discussion. Written and orderstands on advanced lever, hally to write a summary, a report, an essay. Reading and comprehensives from student's field of studies without difficulties. Grammar structures on advanced level.	noion of popular so	acritino aria
2046117		Z	2
	Czech -Advanced oken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation i	1	l
	owrite an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and technical	· ·	essing opinions.
2046127			
	Czech - Upper Intermediate	Z	2
	ard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Abi	iity to describe exp	enences and
	one's opinions and plans. Reading and understanding general and technical texts.		
2046128	Czech - Upper Intermediate	Z	2
''	on European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professions		
	ension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on inte	rmediate level. Bro	adening the
knowledge technical	anguage.		

2046119	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	,	
2046120 Manned to the Commo	Czech Language for Beginners II. n European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understar	Z	2 asic expression
	minology (professional language).	iding and use of be	asic expression.
2046086	French - 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. Wi	riting in a simple wa	ay about familia
	Imprehension of simple texts. Improvement of professional language.		
2046087	French - Lower Intermediate Course	Z	2
	Common European Framework of Reference: A2 Aim: Understanding clearly what is spoken about everyday situations which 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	ppics familiar to the	
	ative speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading a		
currant issues and pop	oular 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		Expressing
2046089	Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to	Z	2
	French - Upper Intermediate Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students of	1	
	alking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa		
2046088	French - Upper Intermediate	Z	2
Understanding standa	rd 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.		
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
<u> </u>	Imprehension of simple texts. Improvement of professional language.	7	
2046085 Manned to the level of	French - Beginners' Course Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which	Z Z	2 at school or in
	peaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2146060	Indonesian Language Course for Exchange	Z	2
Basic of Indonesian La	inguage for Student Exchange Program to Indonesia	'	
2146061	Technical Indonesian - Course I.	Z	2
Second part of Indone	sian Language for Student Exchange Program to Indonesia		
2144062	Technical Indonesian - Course II.	Z,ZK	3
	Inguage for Student Exchange Program to Indonesia		
2046078 Aim: Understanding cl	German - Lower Intermediate Course early what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	Z Z	2
-	g and comprehension of simple texts. Improvement of professional language.	eni. Whiting in a sin	ipie way about
2046079	German - Lower Intermediate Course	Z	2
Mapped to the level of	Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	ch a student meets	
or in his/her free time a	and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	ent of professional	language.
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		_
	n in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and compr	ehension of popula	ar-scientific and
2046082	ts from student's field of studies without difficulties. Grammar structures on advanced level. German - Advanced Course	Z	2
	German - Advanced Course 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		LAPICOSING
2046081	German - Upper Intermediate Course	Z	2
Mapped to the level of	Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students of	comes across at wo	
during free time, and to	alking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understa	anding general and	I technical text
2046080	German - Upper Intermediate Course	Z	2
-	rd 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.		
2046076	German - Beginners	Z Z	2
2046077	eryday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (profes	7	2
	│German - Beginners ommon European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding	_	
	nology (professional language).		,,,p.,000.0.10 0.
2046161	Presentations in English	Z	2
	present in English on technical topics, with a possible co-operation with specialized departments.	·	
2046166	Presentations in Czech	Z	2
Preparing students to	give presentations in English on technical topics, with a possible co-operation with specialized departments.	· '	
2046162	Presentations in German	Z	2
	ting technical topics in German, possibly in cooperation with specialized departments.		
2046164	Presentations in Russian	Z	2
Preparation for presen	ting technical topics in Russian, possibly in cooperation with specialized departments.		
Preparation for presen	ting technical topics in Russian, possibly in cooperation with specialized departments. Presentations in French language ting technical topics in French, possibly in cooperation with specialized departments.	Z	2

	Presentations in Spanish	Z	2
Preparation for pres	enting technical topics in Spanish, possibly in cooperation with specialized departments.	•	
2046137	Russian - Lower Intermediate Course	Z	2
Understanding clear	ly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple w	ay about familia
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 sc	hool or in his/he
free time and speak	ng about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of pro	ofessional language.	
2046141	Russian - Advanced	Z	2
	polen language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, particip	pation in discussions	. Expressing
opinions. Written ski	ls. 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 o	n topics familiar to th	ne student.
Communication with	native speakers, participation in discussions. Expressing opinions. Written skills. Ability to write an essay or a report. Reading	and understanding	texts concerning
currant issues and p	opular scientific and technical articles.		
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 studer	nt meets at work, at	school, during
free time, and talking	about these topics. Ability to describe experiences and events, briefly explain one's opinions and plans. Reading and under	standing general and	d technical texts
2046139	Russian - Upper Intermediate	Z	2
Understanding stand	lard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. A	hility to describe eyr	
	did opositi about familiar matters that a stadent moste at work, at solves, during nos time, and talking about those topics.	bility to describe exp	eriences and
events, briefly explai	n one's opinions and plans. Reading and understanding general and technical texts.	bility to describe exp	eriences and
events, briefly explain 2046136		Z	2
2046136	n one's opinions and plans. Reading and understanding general and technical texts.		2
2046136 Mapped to the level	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners		2
2046136 Mapped to the level	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understa		2
2046136 Mapped to the level of general scientific 2046135	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understa	Z nding and use of bas	2 sic expressions
2046136 Mapped to the level of general scientific 2046135	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate terminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional scientific terminology)	Z nding and use of bas	2 sic expressions
2046136 Mapped to the level of general scientific 2046135 Basic vocabulary of 2046099	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanderminology (professional language) Russian - Beginners	Z nding and use of base Z fessional language) Z	2 sic expressions
2046136 Mapped to the level of general scientific 2046135 Basic vocabulary of 2046099 Mapped to the level	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate terminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language) Spanish - Lower Intermediate	Z nding and use of base Z fessional language) Z student meets at sch	2 sic expressions
2046136 Mapped to the level of general scientific 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanderminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language) Spanish - Lower Intermediate of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Z nding and use of base Z fessional language) Z student meets at sch	2 sic expressions
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098	n one's opinions and plans. Reading and understanding general and technical texts. Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanderminology (professional language) Russian - Beginners Russian - Beginners Russian - Beginners Spanish - Lower Intermediate Spanish - Lower Intermediate Of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a second common	Z nding and use of base Z fessional language) Z student meets at schofessional language. Z	2 sic expressions 2 2 nool or in his/he
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098 Understanding clear	Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate erminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language) Spanish - Lower Intermediate of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional forms and the simple simple size of the siz	Z nding and use of base Z fessional language) Z student meets at schofessional language. Z	2 sic expressions 2 2 nool or in his/he
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098 Understanding clear topics. Reading and	Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate erminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language) Spanish - Lower Intermediate of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Z nding and use of base Z fessional language) Z student meets at schofessional language. Z	2 sic expressions 2 2 nool or in his/her
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098 Understanding clear topics. Reading and 2046096	Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate erminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional Everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Z Inding and use of base Z Inding and use o	2 sic expressions 2 nool or in his/he 2 ray about familia
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098 Understanding clear topics. Reading and 2046096 Aim: Understanding of the level free time and speaking and 2046096	Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate erminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners	Z Inding and use of base Z Inding and use o	2 sic expressions 2 nool or in his/he 2 ray about familia
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098 Understanding clear topics. Reading and 2046096 Aim: Understanding of the level free time and speaking and 2046096	Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate erminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners	Z Inding and use of base Z Inding and use o	2 sic expressions 2 nool or in his/her 2 ray about familia
2046136 Mapped to the level of general scientific of 2046135 Basic vocabulary of 2046099 Mapped to the level free time and speaking 2046098 Understanding clear topics. Reading and 2046096 Aim: Understanding of familiar topics. Read 2046097	Russian - Beginners of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understate erminology (professional language) Russian - Beginners everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a sing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners elearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Z Inding and use of base Z Inding a simple well Z Inding a simpl	2 sic expressions 2 nool or in his/her 2 nay about familia 2 nple way about

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 relative	ons.	
2011056	Mathematics I	Z,ZK	8
In the course, greater	emphasis is placed on the theoretical basis of the concepts discussed and on the derivation of basic relationships and connectio	ns between concep	ts. Students
will also get to know the	e procedures for solving problems with parametric input. In addition, students will gain extended knowledge in some thematic areas:	eigennumbers and e	eigenvectors
	of a matrix, Taylor polynomial, integral as a limit function, integration of some special functions.		
2011062	Matematika II.	Z,ZK	8
	, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differen	tial operators div (d	ivergence)
Open and closed set,	, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differen ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral.		• ,
Open and closed set, and curl (rotation). Fund	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,	Fubini theorem. Tra	nsformation
Open and closed set, and curl (rotation). Fund of integrals to polar, cy	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree	Fubini theorem. Tra n's theorem. A pote	nsformation ential vector
Open and closed set, and curl (rotation). Fund of integrals to polar, cy	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral,	Fubini theorem. Tra n's theorem. A pote	nsformation ential vector
Open and closed set, and curl (rotation). Fund of integrals to polar, cy	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree 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	Fubini theorem. Tra n's theorem. A pote	nsformation
Open and closed set, and curl (rotation). Fund of integrals to polar, cy field, independence co	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree 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. Flow of a vector function.	Fubini theorem. Tra in's theorem. A pote or field through a so	nsformation ential vector urface. The
Open and closed set, and curl (rotation). Fund of integrals to polar, cy field, independence of 2012037	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree 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 of Gauss-Ostrogradskij theorem. Computer Graphics Mathematics I Seminar	Fubini theorem. Tra en's theorem. A pote or field through a su	nsformation ential vector urface. The
Open and closed set, and curl (rotation). Fund of integrals to polar, cy field, independence of 2012037	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree of a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vect Gauss-Ostrogradskij theorem. Computer Graphics	Fubini theorem. Tra en's theorem. A pote or field through a so KZ Z ZK	nsformation ential vector urface. The
Open and closed set, and curl (rotation). Fund of integrals to polar, cy field, independence of 2012037	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree 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. Computer Graphics Mathematics I Seminar Constructive Geometry A	Fubini theorem. Tra en's theorem. A pote or field through a so KZ Z ZK	nsformation ential vector urface. The
Open and closed set, and curl (rotation). Fund of integrals to polar, cyfield, independence of 2012037 2016007 201A021	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree 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 and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function. Flow of a vector function and a vector function and a vector function. Flow of a vector function and a vector function and a vector function and sector function and function and sector	Fubini theorem. Train's theorem. A pote or field through a substituting the substitution that substituting the substitution that substituting the substitution that substituting the substitution that substitution the su	nsformation ential vector urface. The
Open and closed set, and curl (rotation). Fund of integrals to polar, cyfield, independence of 2012037 2016007 201A021	ction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, ylindrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gree 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 are constructed in the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector function are constructed function and a vector function. Flow of a vector function are computer Graphics Computer Graphics Mathematics I Seminar Constructive Geometry A The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations. Mathematics I.A	Fubini theorem. Train's theorem. A pote or field through a substituting the substitution that substituting the substitution that substituting the substitution that substituting the substitution that substitution the su	nsformation ential vector urface. The

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. Z.ZK 4 Faraday's law of electromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of electromagnetic waves. Interaction of radiation with matter. Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and periodic system of elements. Spectra, x-rays, ;laser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 experiments related to the lectures. Physics I. 2021041 7 7K 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 2 The subject is mainly meant for high-school students for repetition of high-school physics. 202A041 ZK 3 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** 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 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. 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 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. 2046068 English - Beginners Ζ 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 2046069 2 **English - Beginners** 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 expressions of general scientific terminology (professional language). Z 2046070 English - Lower Intermediate 2 Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. A1 - A2. English - Lower Intermediate 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 and speaking about them. Writing in a simple way about familiar topics. reading and comprehension of simple texts. Improvement of professional language. English - Upper Intermediate 2 The aim is to extend language skills taking into consideration professional English and common professional terminology. Comprehension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. A2 - B1. English - Upper Intermediate Mapped to the Common European Framework of Reference Level B1. The aim is to extend language skills taking into consideration professional English and common professional terminology. Comprehension of standard English speech and conversation about topics of everyday life - at school, at work, during free time, on intermediate level. Broadening grammar knowledge. 2046074 English - Advanced 2 The aim: comprehension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. reading and comprehension of popular-scientific and scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. B1 - B2. 2046075 English - Advanced 7 2 Mapped to the Common European Framework of Reference Level B1 - B2. The aim: comprehension of spoken English as well as lectures given in English without great difficulties and active participation in a discussion. Written and oral skills on advanced level, Ability to write a summary, a report, an essay, reading and comprehension of popular-scientific and scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. 2046076 Ζ 2 German - Beginners Basic vocabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language) 2 German - Beginners Mapped to the level Common European Framework of Reference A1 Basic vocabulary of everyday life in a written and spoken form. Understanding and use of basic expressions of general scientific terminology (professional language). German - Lower Intermediate Course Ζ 2 Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. 2046079 German - Lower Intermediate Course Ζ 2 Mapped to the level of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a student meets either at school or in his/her free time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement of professional language.

2046080					
	German - Upper Intermediate Course	Z	2		
Understanding st	andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	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		
	/el of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students com	-			
	nd talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understanding				
		7			
2046082	German - Advanced Course		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	German - Advanced Course	Z	2		
Mapped to the leve	el of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken German as well as lectures given in Ge	erman without grea	t difficulties		
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-so	ientific and		
	scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level.				
2046084		Z			
	French - Beginners	-	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	j in a simple way at	out familiar		
	topics. Reading and comprehension of simple texts. Improvement of professional language.				
2046085	French - Beginners´ Course	Z	2		
Mapped to the lev	vel of Common European Framework of Reference: A1 Aim: Understanding clearly what is spoken about everyday situations which a	student meets at s	chool or in		
his/her free tim	ne and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	guage.		
2046086	French - Lower Intermediate Course	. 7	2		
		-			
Understanding clea	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	in a simple way at	out iamiliar		
	topics. Reading and comprehension of simple texts. Improvement of professional language.				
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	ne and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	guage.		
2046088	French - Upper Intermediate	Z	2		
	andard speech about familiar matters that a student meets at work, at school, during free time, and talking about these topics. Ability	-			
Officer startuing st		to describe expent	siices ailu		
	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	vel of Common European Framework of Reference:A2 - B1 Understanding standard speech about familiar topics, that a students com	nes across at work,	at school,		
during free time, ar	nd talking about these topics. Ability to describe experiences and events, explain one's opinions and plans. Reading and understandii	ng general and tecl	hnical texts.		
2046090	French - Advanced	Z	2		
	of spoken language as well as lectures in French on topics familiar to the student. Communication with native speakers, participation	i in discussions. Ex			
	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a				
		7			
2046091	French - Advanced		2		
		pics familiar to the	student.		
	th nativo enackore, narticination in discussions. Expressing aninions Writton skills. Ability to write an essay or a report. Peading and u	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 concerning			
Communication wit		nderstanding texts	concerning		
Communication wit	currant issues and popular scientific and technical articles.	nderstanding texts	concerning		
2046096	currant issues and popular scientific and technical articles.	nderstanding texts	concerning 2		
2046096	currant issues and popular scientific and technical articles. Spanish - Beginners	Z	2		
2046096	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Z	2		
2046096 Aim:Understandin	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Z Writing in a simple	2 way about		
2046096 Aim:Understandin 2046097	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners	Z Writing in a simple	2 way about		
2046096 Aim:Understandin 2046097 Mapped to the C	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a second control of the	Z Writing in a simple Z student meets at so	2 way about 2 hool or in		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Sommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a single and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	Z Writing in a simple Z student meets at so	2 way about 2 chool or in guage.		
2046096 Aim:Understandin 2046097 Mapped to the C	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a second control of the	Z Writing in a simple Z student meets at so	2 way about 2 hool or in		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Sommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a single and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	Z Writing in a simple Z student meets at so of professional lan	2 way about 2 hool or in guage. 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098	currant issues and popular scientific and technical articles. Spanish - Beginners In clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. In familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Sommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a second speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate	Z Writing in a simple Z student meets at so of professional lan	2 way about 2 hool or in guage. 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea	currant issues and popular scientific and technical articles. Spanish - Beginners In g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. In familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Sommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sent and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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.	Z Writing in a simple Z student meets at so of professional lan Z j in a simple way at	2 way about 2 hool or in guage. 2 oout familiar		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a send speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at	2 way about 2 shool or in guage. 2 sout familiar 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing topics. Reading and comprehension of simple texts. Improvement of professional language.	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at Z tt meets at school of	2 way about 2 shool or in guage. 2 sout familiar 2 or in his/her		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of profession of simple texts.	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at Z tt meets at school of professional langua	2 way about 2 shool or in guage. 2 sout familiar 2 or in his/her ge.		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sepaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at Z It meets at school of professional langua	2 way about 2 shool or in guage. 2 sout familiar 2 or in his/her ge. 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discrete communication with native speakers, participation in discrete communication with native speakers, participation in discrete communication with native speakers.	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at Z Int meets at school of professional langua Z cussions. Expressional Expressional Expressional Langua	2 way about 2 shool or in guage. 2 sout familiar 2 or in his/her ge. 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sepaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at Z Int meets at school of professional langua Z cussions. Expressional Expressional Expressional Langua	2 way about 2 shool or in guage. 2 sout familiar 2 or in his/her ge. 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discrete communication with native speakers, participation in discrete communication with native speakers, participation in discrete communication with native speakers.	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at Z Int meets at school of professional langua Z cussions. Expressional Expressional Expressional Langua	2 way about 2 shool or in guage. 2 sout familiar 2 or in his/her ge. 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding cleat 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118	Currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in distensively. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at the meets at school of professional langua Z cussions. Expressing echnical articles. Z	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her ge. 2 ng opinions.		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding cleat 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve	currant issues and popular scientific and technical articles. Spanish - Beginners Ig clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Sommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discensively and the student of the s	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at the meets at school of professional langua Z cussions. Expressing echnical articles. Z ch without great diff	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her ge. 2 ng opinions. 2 ficulties and		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding cleat 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve	currant issues and popular scientific and technical articles. Spanish - Beginners Ig clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Sommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sense and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate 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. Spanish - Lower Intermediate and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discensiving the student of the student. Communication with native speakers, participation in discensiving the student of the student of the student of the student. Communication with native speakers, participation in discensiving the student of the student. Communication with native speakers, participation in discensiving the student of the student. Communication with native speakers, participation in discensiving the student of the student. Communication with native speakers, participation in discensiving the student of the student. Communication with native speakers, participation in discensiving the student of the student. Speakers of the student of the	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at the meets at school of professional langua Z cussions. Expressing echnical articles. Z ch without great diff	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her ge. 2 ng opinions. 2 ficulties and		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding cleat 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati	Currant issues and popular scientific and technical articles. Spanish - Beginners In glearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. It familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners Spanish - Beginners Spanish - Beginners Spanish - Lower Intermediate Topics. Reading about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement spanish 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. Spanish - Lower Intermediate Spanish - Lower Intermediate Intermediate	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at the meets at school of professional langua Z cussions. Expressing echnical articles. Z ch without great difficion of popular-scie	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her ge. 2 ng opinions. 2 ficulties and ntific and		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a see and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate artly 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in distensively to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced all of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I.	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at the meets at school of professional langua Z cussions. Expressing echnical articles. Z ch without great difficion of popular-scie	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her gge. 2 ng opinions. 2 ficulties and ntific and		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati	Currant issues and popular scientific and technical articles. Spanish - Beginners In growers of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners Spanish - Lower Intermediate arrly 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 spanish - Lower Intermediate Spanish - Lower Intermediate Spanish - Lower Intermediate In grower In termediate In grower In termediate In	Z Writing in a simple Z student meets at sc of professional lan Z g in a simple way at t meets at school of professional langua Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her ge. 2 ng opinions. 2 ficulties and ntific and 2 ge)		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level AI. Aim: Understanding clearly what is spoken about everyday situations which a sea and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discensible and the skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced solo Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech on in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I. Czech Language for Beginners II.	Z Writing in a simple Z student meets at sc of professional lan Z g in a simple way at t meets at school of professional langua Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her gge. 2 ng opinions. 2 ficulties and ntific and 2 ge) 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120	Currant issues and popular scientific and technical articles. Spanish - Beginners In growers of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Spanish - Beginners Spanish - Lower Intermediate arrly 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 spanish - Lower Intermediate Spanish - Lower Intermediate Spanish - Lower Intermediate In grower In termediate In grower In termediate In	Z Writing in a simple Z student meets at sc of professional lan Z g in a simple way at t meets at school of professional langua Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her gge. 2 ng opinions. 2 ficulties and ntific and 2 ge) 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level AI. Aim: Understanding clearly what is spoken about everyday situations which a sea and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discensible and the skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced solo Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech on in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I. Czech Language for Beginners II.	Z Writing in a simple Z student meets at sc of professional lan Z g in a simple way at t meets at school of professional langua Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her gge. 2 ng opinions. 2 ficulties and ntific and 2 ge) 2		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120 Mapped to the Con	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a see and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arty 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discensively to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced all of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners II. nabulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language).	Z Writing in a simple Z student meets at sc of professional lan Z g in a simple way at t meets at school of professional langua Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z	2 way about 2 chool or in guage. 2 cout familiar 2 or in his/her ge. 2 ng opinions. 2 riculties and ntific and 2 ge) 2 expressions		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120 Mapped to the Con	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners formmon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sense and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arty 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. Spanish - Lower Intermediate and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in disensibility to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced and of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I. Czech Language for Beginners II. numon European Framework of Reference Level A1 Aim: Basic vocabulary of everyday life in a written and spoken form. Understanding of general scientific terminology (professional language).	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at a sim	2 way about 2 chool or in guage. 2 cout familiar 2 cout		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120 Mapped to the Con	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners formon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate el of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student not speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar topics. Reading and comprehension of spoken Czech as well as lectures given in Czech on in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I. Czech Language for Begi	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at a sim	2 way about 2 chool or in guage. 2 cout familiar 2 cout		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120 Mapped to the Con 2046125 Aim: Understandin	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners ommon European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sine and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arrly 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student depending about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language as well as lectures in Czech on topics familiar topics. Reading and comprehension of simple texts, participation in disensivity to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced of Common European Framework of Reference: B1-B2 The aim: comprehension of spoken Czech as well as lectures given in Czec on in a discussion. Written and oral skills on advanced level, Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student's field of studies without difficulties. Inamon and a speaking about them. Czech Language for Beginners II. The professional language of Beginners II. The	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at a simp	2 way about 2 chool or in guage. 2 cout familiar 2 cou		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046120 Mapped to the Con 2046125 Aim: Understandin 2046126	Currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sene and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arry 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student med speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in disensially to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to common European Framework of Reference: B1-B2 The aim: comprehension of spoken Czech as well as lectures given in Czech in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehensions scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I. abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language). Czech Language for Beginners II. Czec	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at or of professional langual Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z g and use of basic of g Writing in a simple	2 way about 2 chool or in guage. 2 cout familiar 2 cout		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046120 Mapped to the Con 2046125 Aim: Understandin 2046126	Czech -Advanced spoken language as well as lectures in Czech on topics familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Language for Beginners Czech Lower Intermediate Czech Seginners I. Czech -Advanced Czech Seginners II. Czech -Advanced Czech Language for Beginners II. Czech Language for Beginners II. Czech Language for Beginners II. Czech Lower Intermediate	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at or of professional langual Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z g and use of basic of g Writing in a simple	2 way about 2 chool or in guage. 2 cout familiar 2 cout		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046119 Basic voca 2046120 Mapped to the Con 2046125 Aim: Understandin	Currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sene and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement Spanish - Lower Intermediate arry 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. Spanish - Lower Intermediate all of Common European Framework of Reference A2 Understanding clearly what is spoken about everyday situations which a student med speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech -Advanced spoken language as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in disensially to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to common European Framework of Reference: B1-B2 The aim: comprehension of spoken Czech as well as lectures given in Czech in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehensions scientific articles or texts from student's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners I. abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (professional language). Czech Language for Beginners II. Czec	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at or of professional langual Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z g and use of basic of g Writing in a simple	2 way about 2 chool or in guage. 2 cout familiar 2 cou		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046120 Mapped to the Con 2046125 Aim: Understandin 2046126	Czech -Advanced spoken language as well as lectures in Czech on topics familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Czech Language for Beginners Czech Lower Intermediate Czech Seginners I. Czech -Advanced Czech Seginners II. Czech -Advanced Czech Language for Beginners II. Czech Language for Beginners II. Czech Language for Beginners II. Czech Lower Intermediate	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at or of professional langual Z cussions. Expressire echnical articles. Z ch without great difficion of popular-scie Z rofessional languar Z g and use of basic of g Writing in a simple	2 way about 2 chool or in guage. 2 cout familiar 2 cout		
2046096 Aim:Understandin 2046097 Mapped to the C his/her free tim 2046098 Understanding clea 2046099 Mapped to the leve free time a 2046117 Comprehension of Writte 2046118 Mapped to the leve active participati 2046120 Mapped to the Con 2046125 Aim: Understandin 2046126 Aim: Understandin 2046127	currant issues and popular scientific and technical articles. Spanish - Beginners g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Beginners common European Framework of Reference Level A1. Aim: Understanding clearly what is spoken about everyday situations which a sense and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement popics. Reading and comprehension of simple texts. Improvement of professional language. Spanish - Lower Intermediate arty 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. Spanish - Lower Intermediate at 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 as well as lectures in Czech on topics familiar to the student. Communication with native speakers, participation in discensive to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific and to Czech -Advanced at of Common European Framework of Reference: B1- B2 The aim: comprehension of spoken Czech as well as lectures given in Czech on in a discussion. Written and oral skills on advanced level. Ability to write a summary, a report, an essay. Reading and comprehens scientific articles or texts from student 's field of studies without difficulties. Grammar structures on advanced level. Czech Language for Beginners II. Czech Language for Beginners II. Czech Language for Beginners II. Czech Lower Intermediate In gclearly what is spo	Z Writing in a simple Z student meets at so of professional lan Z g in a simple way at or	2 way about 2 chool or in guage. 2 cout familiar 2 cout familiar 2 cout familiar 2 cri in his/her ge. 2 criculties and ntific and 2 ge) 2 expressions 2 way about 2 way about 2 way about 2		

2046128	Czech - Upper Intermediate	Z	2
	mmon European Framework of Reference Level A2-B1. The aim is to extend language skills taking into consideration professional Cz		
terminology. Con	nprehension of standard Czech speech and conversation about topics of everyday life - at school, at work, during free time, on interm knowledge technical language.	lediate level. Broad	tening the
2046135	Russian - Beginners	7	2
	abulary of everyday life in a spoken and written form. Understanding and use of basic expressions of general scientific terminology (p	_	1
2046136	Russian - Beginners	Z	2
	el of Common European Framework of Reference: A1 Basic vocabulary of everyday life in a spoken and written form. Understanding	and use of basic e	1
	of general scientific terminology (professional language)		
2046137	Russian - Lower Intermediate Course	Z	2
Understanding clea	arly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. Writing	in a simple way al	bout familiar
	topics. Reading and comprehension of simple texts. Improvement of professional language.		
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		
	nd speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of p	professional 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 experi	2
Understanding st	events, briefly explain one's opinions and plans. Reading and understanding general and technical texts.	to describe expens	ences and
2046140	Russian - Upper Intermediate	Z	2
	roussian - Opper mermediate /el of Common European Framework of Reference: A2 - B1 Understanding standard speech about familiar matters that a student me	_	1
	ng about these topics. Ability to describe experiences and events, briefly explain one's opinions and plans. Reading and understanding		- 1
2046141	Russian - Advanced	Z	2
	of spoken language as well as lectures in Russian on topics familiar to the student. Communication with native speakers, participatio	_	
opinions.	Written skills. Ability to write an essay or a report. Reading and understanding texts concerning currant issues and popular scientific a	and technical articl	es.
2046142	Russian - Advanced	Z	2
Mapped to the le	evel of Common European Framework of reference: B1 - B2 Comprehension of spoken language as well as lectures in Russian on to	pics familiar to the	student.
Communication wit	th 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.		
2046155	English Conversation	Z	2
0040450	Improving communicative skills in speaking on general topics and general technical topics.		
2046156	English Conversation	Z	2
0040404	Improving communicative skills in speaking on general topics and general technical topics.		
2046161	Presentations in English Preparing students to present in English on technical topics, with a possible co-operation with specialized departments.	Z	2
2046162	Presentations in German	Z	2
2040102	Preparation for presenting technical topics in German, possibly in cooperation with specialized departments.		_
2046163	Presentations in French language	Z	2
2040103	Preparation for presenting technical topics in French, possibly in cooperation with specialized departments.	_	2
2046164	Presentations in Russian	Z	2
_0.0.0.	Preparation for presenting technical topics in Russian, possibly in cooperation with specialized departments.	_	' -
2046165	Presentations in Spanish	Z	2
	Preparation for presenting technical topics in Spanish, possibly in cooperation with specialized departments.	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	ents.	'
2131002	Engineering Design II	Z,ZK	4
Principles of ISO G	PS (Geometrical Products Specification). Students will get critical knowledge about ISO system of limits and fits, tolerancing, surface	texture, geometrica	al tolerance,
dimensional loo	ps, tolerancing of angles and cones, tolerancing of threads. Integral part of course is a project where students apply and practice the	ir knowledge from	lectures.
2141204	Introduction to Electrical Engineering for Technology	Z,ZK	4
	rical circuits, analysis of electrical circuits as DC and AC. El. Power and Energy. Principle and typical parameters diodes, transistors, t		
Analogue and	digital circuits. AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Transformer. Induction machines	s. Synchronous ma	ichines.
24.44000	DC-machines	7.71/	
2144062	Technical Indonesian - Course II. Basic of Indonesian Language for Student Exchange Program to Indonesia	Z,ZK	3
2146060		Z	2
2140000	Indonesian Language Course for Exchange Basic of Indonesian Language for Student Exchange Program to Indonesia		2
2146061	Technical Indonesian - Course I.	Z	2
2140001	Second part of Indonesian Language for Student Exchange Program to Indonesia	_	2
2182019	Chemistry	KZ	3
	y from the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and properties	1	_
	n, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and biochel		- 1
•	oriented upon the material properties measurement.	,	
2321039	Materials Science II.	Z,ZK	4
	netallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and the		processing,
	technical iron-carbon alloys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of material		
2321067	Technical Application of Materials	Z,ZK	5
	aplikovatelnost jednotlivých skupin inženýrských materiál a jejich odpovídající vlastnosti. Rovn ž se v nuje aktuálním vývojovým treno		The subject
descri	bes applicability of specific engineering material types and their characteristics. It deals with the current development trends in these	materials as well.	

2321501			
The course chara		Z,ZK	4
	cterizes individual groups of new construction materials. In addition to the development and physical nature of these materials, the m	•	
recently developed	d materials, their basic characteristics and mechanical properties are listed. Their technological possibilities, design applicability and r	methods of their de	esignations
	are also presented.		
2321503	Technical testing of materials	Z,ZK	5
Term and definition	on of properties. Verification of properties in a certified quality management system. Accredited test laboratory and test systems, test	standard. Basic m	echanical
	ting the characteristics of metals, polymers, composites and ceramics. Testing of material for the limited state is the basic methods in		
standar	ds. Test of resistance to brittle fracture, fatique, creep. Evaluation of technological properties. Defectoscopic method for detecting defe	cts in the material	
2322029	Materials Science I.	KZ	3
History and prese	ent state of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, defor	mation, recrystalliz	zation and
fracture of mate	erials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, in	on-carbon phase o	diagram.
2322041	Heat treatment	KZ	4
Theoretical fu	undamentals of heat treatment, basic processes of heat and chemical-heat treatment of ferrous and non-ferrous metals, excursion fo	cused on the giver	topic
2322091	Project	KZ	2
On the basis of the	preliminary submission of a bachelor thesis the students, under supervision of their supervisors, prepare a review summarizing and e	valuating the studi	ed literature
with particular e	mphasis on experimental technologies which can be applied in their bachelor theses. They can also mention a planned experiment o	r evaluate hitherto	obtained
	knowledge or results.		
2323993	Bachelor Thesis	Z	5
2331065	Design Consideration	Z,ZK	5
	n design, production technique and economic aspects. Design considerations in casting, forming, welding, machining and assembly t		-
	and production technology selection. Component detailing for manufacture. CNC basis and using CNC.		
2331068	Technology I.	Z,ZK	5
	of metals. Treatment. Pouring. Casting solidification. Moulding and core making. Thermal treatment. Plastic deformation. Division of form		_
realitary properties	heating-up. Cutting. Cold and hot forming. Welds. Weldability. Weldment testing. Thermal cutting. Brazing. Surface treatment		iii producto,
2331071	Automation of Production Processes	Z,ZK	5
	c technological processes - casting, welding, forming and finishing. Facilities and equipment required to automate offices. Mechanizati		
	utomation and robotics of die casting process, including other peripherals. Designing and programming of robotic welding centers. De		
Steel louridites. 70	robotic workstations for sheet metal forming. Design of automated forging cells. Design of automated finishing lines.	Joighing and progn	arriiriirig or
2331505		7 7V	4
	Welding Technology	Z,ZK	
2331506	Casting and Forming Technology	Z,ZK	5
•	ion of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production products are the foundry. Production products are the foundry.		
Accuracy, stock	material, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Plastic mould	lings. Individual pr	ojects for
	production of a casting, forging or a stamping.	1/7	
2332038	Surface Treatment Technology	KZ	4
	an introduction to the topic of finishes (meaning and objectives of the field). They are introduced to the basics of corrosion distribution	•	
•	tion in engineering and other industries. Are reconstructed surface preparation processes (mechanical, chemical). Among the discussed is (such as electroplating, zinc plating) technology conversion layers, further application of organic coatings. An important issue is also ecc	•	
coating technologie		uluqidal aspedis, 16	
		• • •	
2222056	design and testing in the field of surface treatment.		
2332056	Preparations and Tools	KZ	3
Principles of sel	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product	KZ tion processes for	3 forgings.
Principles of sel	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production processes	KZ tion processes for ses for weldments.	3 forgings.
Principles of sel Accuracy, stock ma	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping.	KZ tion processes for ses for weldments. g.	3 forgings. Operational
Principles of sel Accuracy, stock ma 2332091	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project	KZ tion processes for ses for weldments. g. KZ	3 forgings. Operational
Principles of sel Accuracy, stock ma 2332091 2333017	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment	KZ tion processes for ses for weldments. g. KZ Z	3 forgings. Operational 2 3
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive prevention	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin	3 forgings. Operational 2 3 g, method
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin	3 forgings. Operational 2 3 g, method
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventive ention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings.	3 forgings. Operational 2 3 g, method Ecological
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings.	3 forgings. Operational 2 3 g, method Ecological
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Care	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. sess in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging.
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Care	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. sess in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging.
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Ca: Free and drop for	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventive ention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. sess in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ unology. Hot and co	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. g; Flame
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Ca: Free and drop for 2333993	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventive ention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. sess in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ inology. Hot and co	3 forgings. Operational 2 3 ag, method Ecological 3 ction of pig old forging. ag: Flame 5
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Ca: Free and drop for	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventive ention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. sess in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ unology. Hot and co	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. g; Flame
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Car Free and drop for 2333993 2341001 Metrology, intergrati	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping. Project Surface Treatment Surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventive ention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. In the seminary production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology In into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and second	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ and ording. Fusion weldin Z Z,ZK ndary standarts. M	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Car Free and drop for 2333993 2341001 Metrology, intergrati	Preparations and Tools lection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping. Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventive ention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. In sees in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology in modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ and ording. Fusion weldin Z Z,ZK ndary standarts. M	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Car Free and drop for 2333993 2341001 Metrology, intergrati	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production of terrial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technosting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure. Measurement automatisation.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z tical metals. Produ anology. Hot and co ding. Fusion weldin Z Z,ZK ndary standarts. M ure - roughness, w	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Car Free and drop for 2333993 2341001 Metrology, intergrati	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Producterial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing aspects of surface treatments. Fundamentals of Technology I. sess in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technosting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structured.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ and ording. Fusion weldin Z Z,ZK ndary standarts. M	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production process iron and steel. Care Free and drop for 2333993 2341001 Metrology, intergrating in 1, 2, end 3 cores.	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production of terrial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technosting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure. Measurement automatisation.	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and co ding. Fusion weldin Z Z,ZK ndary standarts. M ure - roughness, w Z,ZK	3 forgings. Operational 2 3 ag, method Ecological 3 ction of pig old forging. ag: Flame 5 easurement awiness.
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Car Free and drop for 2333993 2341001 Metrology, intergrati in 1, 2, end 3 co 2341002 Cutting tools cha	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping. Project Surface Treatment esting. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and secondinates. Laserinterferometres and their applications. Geometrical quantities metrology. Measurement uncertainty. Primary and secondinates. Laserinterferometres and their applications. Geometrical quantities metrology. Measurement uncertainty. Primary and secondinates. Laserinterferometres and their applications. Geometrical quantities metrology. Measurement uncertainty. Primary and secondinates. Laserinterferometres and their applications. Geometrical quantities metrology. Measurement uncertainty. Primary and secondinates. Laserinterferometres and their applications. Geometrical quantities metrology. Measurement uncertainty. Primary and secondinates. Cutting tools geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools groups description and their use (turning tools, milling tools groups descriptio	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and coating. Fusion welding. Z Z,ZK mdary standarts. Mure - roughness, well assurement. Cu	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. g: Flame 5 easurement awiness. 4 tting tools
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production proces iron and steel. Car Free and drop for 2333993 2341001 Metrology, intergrati in 1, 2, end 3 co 2341002 Cutting tools cha	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technoring in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technoring. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology In equipment activity. Primary and secondrinates. Laserinterferometres and their applications. Geometrical quantities metrology. Measurement uncertainty. Primary and secondrinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structures the surface properties. Form - and position deviations. Surface structures the surface properties. Form - and position deviations. Surface structures the surface properties. Form - and position deviations. Surface structures the surface properties. Form - and position deviations. Surface structures the surface properties. Form - and position deviations and surface pr	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and coatings. Fusion welding. Fusion welding. Fusion welding. Fusion welding. Fusion welding. Taxing standarts. Mare - roughness, we Z,ZK measurement. Cung tools, etc.). Spe	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. g: Flame 5 easurement awiness. 4 tting tools
Principles of sel Accuracy, stock may 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production processiron and steel. Care Free and drop for 2333993 2341001 Metrology, intergration 1, 2, end 3 corrections and steel care and drop for 2341001 Metrology, intergration 1, 2, end 3 corrections are considered as a correct and corrections are considered as a correct and correct as a	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technologing. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structs Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools design including dimensioning. Cutting to	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and coating. Fusion welding. Z Z,ZK may standarts. Mure - roughness, well and tools, etc.). Specially tools, etc.).	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement awiness. 4 tting tools cial cutting
Principles of sel Accuracy, stock may 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production processiron and steel. Care Free and drop for 2333993 2341001 Metrology, intergration 1, 2, end 3 corrections and steel control of the	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technsting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools. Grinding, use and maintenance of cutting tools. Technology II. ormation, cutting processes, finishing operations, non-traditional machining processes. Production rat	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and coating. Fusion welding. Z Z,ZK may standarts. Mure - roughness, well and tools, etc.). Specially tools, etc.).	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement awiness. 4 tting tools cial cutting
Principles of sel Accuracy, stock may 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production processiron and steel. Care Free and drop for 2333993 2341001 Metrology, intergration 1, 2, end 3 corrections and steel control of the	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technologing. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structs Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools design including dimensioning. Cutting to	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and coating. Fusion welding. Z Z,ZK may standarts. Mure - roughness, well and tools, etc.). Specially tools, etc.).	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement awiness. 4 tting tools cial cutting
Principles of sel Accuracy, stock may 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production processiron and steel. Care Free and drop for 2333993 2341001 Metrology, intergration 1, 2, end 3 corrections and steel control of the	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technsting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools. Grinding, use and maintenance of cutting tools. Technology II. ormation, cutting processes, finishing operations, non-traditional machining processes. Production rat	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Produ anology. Hot and coating. Fusion welding. Z Z,ZK may standarts. Mure - roughness, well and tools, etc.). Specially tools, etc.).	3 forgings. Operational 2 3 g, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement awiness. 4 tting tools cial cutting
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production process iron and steel. Care Free and drop for 2333993 2341001 Metrology, intergration in 1, 2, end 3 con 2341002 Cutting tools chall elements design. 4 2341014 mechanics of chip for 2341068	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping. Project Surface Treatment e surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technoting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, millir tools. Grinding, use and maintenance of cutting tools. Technology II. ormation, cutting processes, finishing operations, non-traditional machining processes. Production rat	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z ical metals. Produ inology. Hot and co ding. Fusion weldin Z Z,ZK indary standarts. M ure - roughness, w Z,ZK measurement. Cu ing tools, etc.). Spe	3 forgings. Operational 2 3 gg, method Ecological 3 ction of pig old forging. ng: Flame 5 easurement rawiness. 4 tting tools cial cutting 5 f processes,
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production process iron and steel. Caterian Series and drop for 2333993 2341001 Metrology, intergration in 1, 2, end 3 corrections to characteristic steel and drop for 2341002 Cutting tools characteristic steel and drop for 2341001 2341014 mechanics of chip for 2341068 Development of ecology.Influence	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Production for terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production processes sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping. Project Surface Treatment a surface treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventiention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing. aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technoting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technology. Rolling. Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology Ion into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structure Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling) are and maintenance of cutting tools. Technology II. ormation, cutting processes, finishing operations, non-traditional machining processes. Production rates calc	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Production processes for weldments. Z sical metals. Production processes for welding. Fusion welding. Z,ZK may standarts. May a company standards. Special standards are standards and standards are standards and standards are standards. May a company standards are standards. A company standards are stand	3 forgings. Operational 2 3 gg, method Ecological 3 ction of pig old forging. gg: Flame 5 easurement rawiness. 4 tting tools cial cutting 5 f processes, 5 nics and materials.
Principles of sel Accuracy, stock ma 2332091 2333017 Introduction to the anticorrosive prev 2333038 Production process iron and steel. Caterian Series and drop for 2333993 2341001 Metrology, intergration in 1, 2, end 3 corrections to characteristic steel and drop for 2341002 Cutting tools characteristic steel and drop for 2341001 2341014 mechanics of chip for 2341068 Development of ecology.Influence	Preparations and Tools ection of the manufacturing method for semi-finished products. Production planning and production processes in the foundry. Product terial, utilized equipment. Production processes for stampings. Manufacturing of stampings, presses and equipment. Production process sequence, filler materials, equipment. Plastic mouldings. Individual projects for production of a casting, forging or a stamping Project Surface Treatment surface Treatments - branch signification and objects. Principles of corrosion, types and corrosion distribution. Anticorrosive preventivention. Corrosion testing. Surface pre-treatment. Converse coatings, enamels. Inorganic coatings, electroplating, hot-dip galvanizing, aspects of surface treatments. Fundamentals of Technology I. ses in engineering production. Technology of engineering production. Materials in engineering. Concepts of steel and cast iron, technoting: modeling devices, molding materials, molding and castings. Foundry alloys. Overview of basic casting technology. Forming technoting: Production of pipes. Bulk and sheet metal forming. Welding technology. The characteristics of the various types of welding and arc welding with coated electrodes. Thermal cutting. Bachelor Thesis Metrology In into quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and seconordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface structs Measurement automatisation. Cutting tools racteristics. Cutting materials including heat treatment and surface finish, application fields. Cutting tool geometry, determination and Cutting tools design including dimensioning. Cutting tools production. Basic tools groups description and their use (turning tools, milling tools, Grinding, use and maintenance of cutting tools. Technology II. ormation, cutting processes, finishing operations, non-traditional machining processes. Production to process plani	KZ tion processes for ses for weldments. g. KZ Z on in manufacturin Organic coatings. Z sical metals. Production processes for weldments. Z sical metals. Production processes for welding. Fusion welding. Z,ZK may standarts. May a company standards. Special standards are standards and standards are standards and standards are standards. May a company standards are standards. A company standards are stand	3 forgings. Operational 2 3 gg, method Ecological 3 ction of pig old forging. gg: Flame 5 easurement rawiness. 4 tting tools cial cutting 5 f processes, 5 nics and materials.

2341515	Manufacturing process planning	Z,ZK	4
	urse in terms of learning outcomes and competences. The aim of the course is to acquaint students with modern approaches and metho	1 '	1
-	gard to minimization of material consumption and economic efficiency of the machining process. Next, introducing students to the des		
	hnical and organizational conditions. Further, the aim of the subject is to explain the issue of standardization of work with regard to the		
•	of performed activity.	,, ,	,,
2342005	Quality Control	KZ	2
Basic quality contr	ol terms, where is quality created, who is responsible for a quality. Basic statistical terms and distributions. Statistical methods: statist	ical process contr	ol, statistical
sar	npling. Tools and methods for a quality assurance during product lifetime cycle. Standards 9 000 and 14 000, certification of quality co	ontrol systems.	
2342032	Automation of machine tool programming	KZ	3
	Utilizations of computer technique for preparation of NC programs for lathe and milling machinery. Utilizations of probes on CNC ma	chine tool.	•
2342091	Project	KZ	2
	Work on specialized tasks.	'	'
2343993	Bachelor thesis	Z	5
Sources of inform	ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr	inciples of research	ch and work
	in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the	sis.	
2372041	Computer Support for Study	KZ	3
The course introdu	ces students into creating technical and professional documents on computers or Web and into realizing technical computations with t	he use of compute	ers. Students
gain practic	al skills by creating an essay in a text editor, by realizing technical computations with a spreadsheet calculator, and by creating techn	ical-based WWW	page.
2383001	Fundamentals of Law	Z	2
Basic orientation i	n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provic	le a view into the	Czech Legal
Order, particular s	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	ents to know
our legal institution	ons, 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	e them ready
	to prepare professional presentations and to understand basic structures between law and engineering		

For updated information see http://bilakniha.cvut.cz/en/FF.html Generated: day 2025-07-03, time 22:48.