Study plan

Name of study plan: B TZSI 2021 - prezen ní

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: 156 Elective courses credits: 30 Sum of credits in the plan: 186 Note on the plan: odebrány p edm ty typu alfa, p vodní minimální po et kredit pro absolvování studijního plánu byl 224

Name of the block: Compulsory courses in the program Minimal number of credits of the block: 135 The role of the block: P

Code of the group: 01P1/B2342-B/FSI23P Name of the group: 1. B TZSI (s KVI a ZT1) Requirement credits in the group: In this group you have to gain 29 credits Requirement courses in the group: In this group you have to complete 8 courses Credits in the group: 29 Note on the group: odebrány předměty alfa, původní skupina 01P1/B2342-B/FSI17P

noto 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
2021026	Physics I	Z,ZK	5	4P+1C+1L	L	Р
2313028	Career in Engineering Václav Bauma, Zbyn k Šika, Michael Valášek Michael Valášek Michael Valášek (Gar.)	Z	2	1P+1C	Z	Р
2011018	Constructive Geometry Jan Halama, Ivana Linkeová, Marta Hlavová, Martin Hanek, Milana Kittlerová, Nikola Pajerová, Vladimír Prokop, David Trdli ka, Jaroslav Cibulka Ivana Linkeová Ivana Linkeová (Gar.)	Z,ZK	5	3P+2C	1	Ρ
2011067	Mathematics I. Gejza Dohnal	Z,ZK	6	4P+4C	*	Ρ
2372041	Computer Support for Study Vladimír Hlavá	KZ	3	1P+1C	*	Р
2132031	Engineering Design I. František Lopot, Karel Petr, Marek Štádler, Roman Uhlí Karel Petr Karel Petr (Gar.)	KZ	3	1P+2C	1	Р
2333008	Fundamental of Technology I. Marie Kola íková	Z	2	1P+1C	1	Р

Characteristics of the courses of this group of Study Plan: Code=01P1/B2342-B/FSI23P Name=1. B TZSI (s KVI a ZT1)

2021026 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, measurement of experiments related to the lectures 2313028 Ζ 2 Career in Engineering The goal is to teach the principles of engineering, tits fundamental concepts, personal profile and career procedure in industrial enterprize. 2011018 **Constructive Geometry** Z,ZK 5 The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relations. 2011067 Z.ZK Mathematics I. 6 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

Z,ZK

5

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	K7	3				
2012011		1.2	U U				
The course introduces s	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 c	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.						
2132031	Engineering Design I.	KZ	3				
Basic of technical representation, dimensioning and tolerancing.							
2333008	Fundamental of Technology I.	Z	2				

Code of the group: 02P1/B2342--/FSI23P Name of the group: 2. B TZSI (s ZT2) Requirement credits in the group: In this group you have to gain 31 credits Requirement courses in the group: In this group you have to complete 9 courses Credits in the group: 31 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
2021027	Physics II	Z,ZK	4	2P+2L		Р
2381054	Management and Economics of the Enterprise Theodor Beran, Št pánka Uli ná, Vladimír Brdek, Ladislav Vaniš, Petr Žemli ka Theodor Beran Theodor Beran (Gar.)	Z,ZK	4	2P+2C	*	Р
2011068	Mathematics II.	Z,ZK	6	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.)	КZ	3	2P+1L	2	Р
TV-2	Physical Education	Z	1		L	Р
TVK-L	Physical Education Course	Z	1	7dní	L	Р
2121046	Thermomechanics Tomáš Hyhlík, Hana Schmirlerová Tomáš Hyhlík Tomáš Hyhlík (Gar.)	Z,ZK	5	3P+14C+06L	-	Р
2343010	Fundamentals of Technology II. Pavel Novák	Z	2	1P+0C+1L	2	Р

Characteristics of the courses of this group of Study Plan: Code=02P1/B2342--/FSI23P Name=2. B TZSI (s ZT2)

		/				
2021027	Physics II	Z,ZK	4			
Faraday's law of electron	nagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of e	electromagnetic w	aves. Interaction			
of radiation with matter.	Photoelectric effect. Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom ar	nd periodic syster	n of elements.			
Spectra, x-rays, ;laser. E	Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 ex	periments related	to the lectures.			
2381054	Management and Economics of the Enterprise	Z,ZK	4			
The subject is intended	o teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reaso	ning and to help t	hem understand			
the basic relationships b	between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audie	ence to be able to	communicate			
with economists in orga	nizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing c	of products and se	ervices. Every			
technician will encounte	r reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve	the operating bu	dget. In the field			
of management, they w	ill learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project man	agement. For dec	ision-making			
purposes, they will learn	the applications of multi-criteria decision-making. The basics of marketing and strategic management will be introduced.					
2011068	Mathematics II.	Z,ZK	6			
Open and closed set, be	pundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Differentiability.	ntial operators div	(divergence)			
and curl (rotation). Funct	ion given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integr	al, Fubini theorem	n. Transformation			
of integrals to polar, cyli	ndrical and spherical coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Gre	een'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 vec	tor field through a	a surface. The			
Gauss-Ostrogradskij the	eorem.					
2322029	Materials Science I.	KZ	3			
History and present stat	e of materials engineering, overview of technical materials, internal structure of metals, crystal lattices and their defects, defo	ormation, recrysta	Ilization and			
fracture of materials, str	ucture and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, irc	on-carbon phase	diagram.			
TV-2	Physical Education	Z	1			
TVK-L	Physical Education Course	Z	1			
2121046	Thermomechanics	Z,ZK	5			
Basic laws of thermodyr	namics. State equation of ideal gas. Ideal and semi-ideal gases and their properties. Reversible and typical irreversible process	ses of ideal and s	emi-ideal gases.			
Mixtures of gases. Real	gases and vapours, reversible and irreversible processes. Cycles of typical motors and machines. Moist air. Fundamentals of	chemical thermo	dynamics.			
Thermodynamics of chemical reactions. Basic cases of heat transfer. Steady heat conduction. Heat convection. Similarity, a criterion equation. Heat transfer during phase changes.						
Thermal radiation. Com	bined cases of heat transfer. Heat exchangers.					
2343010	Fundamentals of Technology II.	Z	2			
Introduction to machining. Principle of cutting process. Working parameters. Cutting tools - general characteristics, geometry, designation and symbols. The basic machining processes,						
their mechanics, equipment, conditions, material removal rate determination. The shapes produced, commercial tolerance and surface finish obtained. Laboratories.						

Code of the group: 03P1/B2342--/FSI23P

Name of the group: 3. B TZSI

Requirement credits in the group: In this group you have to gain 31 credits Requirement courses in the group: In this group you have to complete 8 courses odebrány předměty alfa, původní skupina 03P1/B2342--/FSI19P

U U U						
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.)	КZ	3	2P+1C	1	Р
2011009	Mathematics III Jan Halama, Milana Kittlerová, Vladimír Prokop, David Trdli ka, Marta ertíková, Jan Valášek, Hynek ezní ek, Lud k Beneš, Tomáš Bodnár, Stanislav Kra mar Stanislav Kra mar (Gar.)	Z,ZK	5	2P+2C	*	Ρ
2311101	Mechanics I. Václav Bauma, Zbyn k Šika, Michael Valášek, Pavel Bastl, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Zbyn k Šika Zbyn k Šika (Gar.)	Z,ZK	4	2P+2C	*	Ρ
2121502	Fluid Dynamics Tomáš Hyhlík, Hana Schmirlerová Tomáš Hyhlík Tomáš Hyhlík (Gar.)	Z,ZK	5	3P+2C	Z	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	*	Ρ
2341014	Technology II. Pavel Novák	Z,ZK	5	2P+0C+2L	*	Р
TV-1	Physical Education	Z	1		Z	Р
2012035	Algorithmization and Programming Fundamentals Jan Halama, Martin Hanek, Vladimír Prokop, David Trdli ka, Marta ertíková, Olga Majlingová, Petr Svá ek, Vladimír Hric, Jan Karel, Petr Svá ek Petr Svá ek (Gar.)	кz	4	1P+2C	*	Ρ

Characteristics of the courses of this group of Study Plan: Code=03P1/B2342--/FSI23P Name=3. B TZSI

2182019	Chemistry	KZ	3		
General chemistry from	the point of view of mechanical and process engineering. Physical chemistry forms 2/3 of the course (structure and propertie	s of matter, therr	nodynamics,		
phase equilibrium, chem	nical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and bioche	mistry. Laborator	y practice is		
oriented upon the mater	ial properties measurement.				
2011009	Mathematics III	Z,ZK	5		
An introductory course i	n ordinary differential equation and infinite series.				
2311101	Mechanics I.	Z,ZK	4		
Mechanics I deals with t	he basic concepts of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their	systems with and	without friction.		
There are introduced the	e methods of description of position and motion of particles and rigid bodies.				
2121502	Fluid Dynamics	Z,ZK	5		
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 and	thermo-mechar	nical processing,		
technical iron-carbon all	oys, non-ferrous metals and their alloys, plastics, structural ceramics, composites, selection of materials.				
2341014	Technology II.	Z,ZK	5		
mechanics of chip forma	tion, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining ecor	nomics. Automati	on of processes,		
programming of manufa	cture. Engineering metrology. Assembly techniques. Introduction to process planing.				
TV-1	Physical Education	Z	1		
2012035	Algorithmization and Programming Fundamentals	KZ	4		
Programming in MATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matrices, vectors and operations.					
Writting M-script. Input a	Writting M-script. Input and output. Condition and cycle. Algorithmization of simple problems in MATLAB. Graphical commands. Matrix operations. Systems of linear equations. Scripts				

and functions. Structure of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. Structures. Algorithmization of simple programs: minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of systems of linear equations.

Code of the group: 05P1/B2342--/FSI23P

Name of the group: 5. B TZSI

Requirement credits in the group: In this group you have to gain 26 credits

Requirement courses in the group: In this group you have to complete 6 courses

Credits in the group: 26

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
2131512	Machine Elements and Mechanisms I. František Lopot	Z,ZK	6	3P+2C	*	Р
2141504	Electric Circuits and Electronics Stanislava Papežová, Jan Chyský, Jaroslav Novák, Lukáš Novák Zuzana Sedlecká Jan Chyský (Gar.)	Z,ZK	4	2P+06C+14L	*	Ρ

2311107	Mechanics III. Tomáš Vampola	Z,ZK	7	2P+3C	5	Р
2111103	Strenght of Materials II Miroslav Španiel, Jan ezní ek, Tomáš Mareš, Karel Doubrava, Ctirad Novotný, Zden k Padovec, Michal Bartošák, Ji í Kuželka, Martin Nesládek, Tomáš Mareš Miroslav Španiel (Gar.)	Z,ZK	5	3P+3C	Z	Ρ
2372083	Measurement in Engineering Martin Novák, Vladimír Hlavá Martin Novák Martin Novák (Gar.)	KZ	3	1P+0C+2L	*	Р
2153005	Fundamentals of Energy Conversions Jan Havlík	Z	1	1P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=05P1/B2342--/FSI23P Name=5. B TZSI

2131512 Machine Elements and Mechanisms I. Z,ZK 6 Joints and joining elements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, keys). Mechanical transmissions (belt, chain, friction, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded connecting bolts, clamped, pressed, splined and key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assembly units is also indispensable seminar work. 2141504 **Electric Circuits and Electronics** Z,ZK Δ Introduction into theory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of energy. El. Power and Energy. Introduction into electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilizer, power control, operational amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, microprocessor. 2311107 Z.ZK 7 Mechanics III. Mechanics III deals with the basic concepts of dynamics. Methods of solving the dynamics of mass particle and body motion and their systems are described. Methods for describing and solving vibrations of systems. 2111103 Strenght of Materials II Z,ZK 5 This course is to provide an advanced analysis of machine members. It also provides the prerequisite for other special courses concerning the theory of elasticity and plasticity. 2372083 Measurement in Engineering ΚZ 3 Overview of sensor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and verification of measurement instruments. Fundamentals of Energy Conversions 2153005 Ζ 1

Code of the group: 06P1/B2342--/FSI21P

Name of the group: 6. B TZSI

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 5 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
2131026	Machine Elements and Mechanisms II František Lopot, Karel Petr, Zden k ešpíro, Eliška Cézová, Martin Dub, Jan Flek, Jan Kanaval, Ji í Houkal František Lopot František Lopot (Gar.)	ZK	3	3P+0C	*	Р
2141505	Electrical machines and drives Jan Chyský, Jaroslav Novák Jaroslav Novák (Gar.)	Z,ZK	4	2P+08C+14L	*	Ρ
2133025	Design František Lopot František Lopot František Lopot (Gar.)	Z	4	0P+4C	*	Р
2181026	Momentum, Mass and Heat Transfer Martin Dostál, Vojt ch B lohlav, Stanislav Solna , Jan Sko ilas, Tomáš Jirout, Adam Krupica, Ji í Moravec Tomáš Jirout Tomáš Jirout (Gar.)	Z,ZK	5	3P+1C	*	Р
2383001	Fundamentals of Law Václav Pilík Václav Pilík (Gar.)	Z	2	1P+1C	*	Р

Characteristics of the courses of this group of Study Plan: Code=06P1/B2342--/FSI21P Name=6. B TZSI

2131026 Machine Elements and Mechanisms II ΖK 3 Preliminary design, design calculations and aplication of axles and shafts, sliding and rolling bearings, shaft connections, elements of crank mechanism, pipelines and their accessories and fittings. 2141505 Electrical machines and drives Z.ZK 4 AC el. curcuits. Electrical power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transformer, principle, construction, 3-phase transformer, operating conditions, rated (scheduled) values. Induction machine, principle, construction, operating conditions. Starting, speed-torque characteristic, speed control. Synchronous machines. DC-machines, principle, parameters, operating conditions, construction, starting, speed control, speed-torque characteristic. Low-voltage instruments. Low-voltage distribution system. 2133025 Ζ 4 Design Design, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft couplings and clutches. Z,ZK 2181026 Momentum, Mass and Heat Transfer 5 Fundamentals of transport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanical energy equation. Residence time distributions in continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and thermal radiation. Multicomponent systems. Mass transfer by molecular diffusion, convection, with chemical reactions and interphase mass transfer.

2383001	Fundamentals of Law	Z	2
Basic orientation in lega	I system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to pro	ovide a view into t	he Czech Legal
Order, particular source	s of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It	s necessary for s	tudents to know
our legal institutions, that	tt will be regularly in touch with, especially during their professional career and to learn how to work with the collection of law	s. At the same tin	ne the course
leads students to know s	some practical habits and processes while putting the law on, especially in domain of contracts and other important legal rela	tionships and to n	nake them ready
to prepare professional	presentations and to understand basic structures between law and engineering		

Name of the block: Compulsory elective courses Minimal number of credits of the block: 19 The role of the block: PV

Code of the group: 03Q1/B2342--/FSI18P Name of the group: 3. B TZSI Requirement credits in the group: In this group you have to gain 2 credits Requirement courses in the group: In this group you have to complete 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
2023013	Practical Class in Physics I Tomáš Horaž ovský, Zuzana Budinská, Petr Duchá ek, Jan Koller Zuzana Budinská	z	2	0P+2C		PV
2013044	Mathematics Repetitory Jan Halama, Milana Kittlerová, Lud k Beneš, Ji í Holman Ivana Linkeová (Gar.)	Z	2	0P+2C	*	PV
2133013	Engineering Design III. František Lopot, Roman Uhlí, Jan Hoidekr, Jan Kanaval, David Skalický Jan Kanaval Jan Kanaval (Gar.)	Z	2	0P+2C	z	PV
2013066	Basics of Stochastics Gejza Dohnal Gejza Dohnal (Gar.)	Z	2	0P+2C	*	PV

Characteristics of the courses of this group of Study Plan: Code=03Q1/B2342--/FSI18P Name=3. B TZSI

2023013	Practical Class in Physics I	Z	2				
The subject is inteded f	or students who need more detailed practising and improvement (including knowledge from former physics coursess, or high	-school knowledg	e) necessary for				
successful finishing Phy	vsics I course. The instructions are analogical to seminars with a short corresponding theoretical background. The link betwee	en physical conce	pts and methods				
of solution of typical pro	blems is underlying.						
2013044	Mathematics Repetitory	Z	2				
Lessons are intended for	or students who expect problems at exams from mathematics. Lessons have a form of seminary with a short introduction to th	heory and a varie	ty of exercises				
ranging sometimes eve	n from level of grammar school and aimed mainly to Mathematics I and III.						
2133013	Engineering Design III.	Z	2				
Design of assembly uni	t (draft drawing, detail drawing, assembly drawing, technical report)						
2013066	Basics of Stochastics	Z	2				
Students will learn the b	asics of probability theory (random experiment, probability, random variable, probability distribution, characteristics of random	m variables, proba	ability models,				
multivariate random variable and its characteristics, laws of large numbers and limit theorems) and the basic principles of statistical inference (frequency analysis, parameter estimation							
, hypothesis testing, regression analysis and more). The application of this knowledge we can found in all areas where it is necessary to evaluate the results of experiments, perform							
parameter estimation based on measurements, application of stochastic simulation methods, prediction of random processes and time series assessment. Also important is the use							
of these methods for the	of these methods for the control of quality, reliability and risk assessment.						

Code of the group: 04Q1/B2342--/FSI19P

Name of the group: 4. B TZSI

Requirement credits in the group: In this group you have to gain 2 credits

Requirement courses in the group: In this group you have to complete at least 1 course (at most 11) 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
2213014	Transportation and Aerospace Technology Zden k Novák Old ich Vítek (Gar.)	Z	2	0P+2C	L	PV
2323014	Materials of the 21st Century Jan Kr il, Ta ana Vacková, Ladislav Cvr ek Ladislav Cvr ek Ladislav Cvr ek (Gar.)	Z	2	0P+2C		PV
2383020	Modern Management of Businesses and Projects Miroslav Žilka, Pavel Scholz Miroslav Žilka Miroslav Žilka (Gar.)	Z	2	0P+2C		PV

2333040	Perspective Production in Engineering Antonín K íž, Pavel Rohan Pavel Rohan Pavel Rohan (Gar.)	Z	2	0P+2C	4	PV						
2183014	Progressive Processes of Energy Utilization Jan Sko ilas, Tomáš Jirout, Vladimír Zmrhal, Michal Kolovratník, Lukáš Krátký Tomáš Jirout Jan Sko ilas (Gar.)	Z	2	0P+2C	*	PV						
2353041	Practical introduction to production machines Petr Vavruška Petr Vavruška (Gar.)	Z	2	0P+2C+0L		PV						
2023012	Practical Class in Physics II Tomáš Horaž ovský, Zuzana Budinská, Petr Duchá ek, Jan Koller Zuzana Budinská Tomáš Horaž ovský (Gar.)	Z	2	2 0P+2C P								
2343040	Manufactory Pavel Novák (Gar.)	Z	2	0P+2C		PV						
2133014	Engineering Design IV. František Lopot František Lopot (Gar.)	Z	2	0P+2C	L	PV						
2313040	Introduction into applied mechanics and mechatronics Václav Bauma, Zbyn k Šika, Michael Valášek, Vladimír Prokop, Tomáš Hyhlík, Petr Beneš, Ivo Bukovský, Jan Pelikán, Jan Zav el, Michael Valášek Michael Valášek (Gar.)	Z	2	0P+2C	*	PV						
2373040	Robot Control Introduction Jakub Jura Pavel Trnka (Gar.)	Z	2	0P+0C+2L	*	PV						
Characteristics of the	courses of this group of Study Plan: Code=04Q1/B2342/FSI1	9P Name=4.	B TZSI									
2213014 Transportation and Aerospace Technology Z 2 Design and testing of ground transportation vehicles, control systems, aircraft structures and propulsions. Selected topics of transportation and aerospace technology are presented in seminars and by means of laboratory exercises. Information about possibility of master study and project work at CTU, trainee and internship in reputable firms, both in transportation and aerospace technology. 2323014 Materials of the 21st Century Z 2 The subject is focused on characterization of structural and functional materials, which are currently used in technical practice. Attention is paid to technological methods of production of advanced materials, prediction and own evaluation of their properties. In addition, development trends for individual types of materials are discussed Z 2 The main objective of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years and will shape the future. The course introduces the main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks in the near future. The second main topic represent information systems for management and planning of business processes and for support of management. The focus of the course is not to provide students in students in project management.												
with a detailed explanation, I developed within individual c	out to provide a general view of current trends and approaches in key areas of corpora courses in the Master's degree program.	ite governance. Th	ne required	depth of indi	vidual area	is is further						
2333040 Pe The subject focuses on the t energy production and prese material-working.	rspective Production in Engineering eaching of advanced engineering technology, modern trends in production manageme entation of the virtual factory. Classes will be a combination of practical nature of work i	ent, development o in laboratories FS	of new adva	anced materia nal videos, ar	Z als, testing ad tours to	2 of materials, the high-tech						
2183014 Pro The scope of this subject is to of fundamentals in Environm energy, separators and prote needs and applications of th consumer and chemical indu during the processing of a b	Dispressive Processes of Energy Utilization b introduce the fields of study in bachelor study programs "Engineering" and "Theoretical itental, Power and Process Engineering . In the field of Environmental Engineering, fun- ection against dust and noise are presented. As for Power Engineering, heat and electr ese energy forms in the industrial and private sectors are discussed. In the field of Pro stries, pharmacy, biotechnologies and waste treatment technologies are presented. Bas rief seminar paper on selected topic, in which she/he is interested in.	I Fundamentals in damentals of hea ricity production fr cess Engineering sed on this informa	Mechanica ting, ventila om fossil a , technolog ation, stude	l Engineering tion, cooling, nd renewable ies, machine nt gets finally	Z g". Student alternative sources is s and equi more deta	2 gets knowledge sources of presented, oment in food, iled information						
2353041 Pra	actical introduction to production machines	ics of design cons	siderations	of componer		2 d on CNC						
machines. Students will acqu technologies and production and tool adjustment, product (measurements of accuracy,	introduction to production machines including including cover technologies and the bas procedures used and determination of technological conditions. Students will also fam ion proper, testing procedures and product measurement. Basic statistical and operation force, noise, vibration, temperature etc.)	hines as well as (hiliarize themselve onal diagnostic m	CNC machines with mac ethods of n	ning centres, hine operation neasurement	including t including t on, possibili will also be	he design brief, ties of machine e demonstrated						
2023012 Pra The subject is inteded for stu successful finishing Physics of solution of typical problem	actical Class in Physics II udents who need more detailed practising and improvement (including knowledge from II course. The instructions are analogical to seminars with a short corresponding theore is is underlying.	n former physics c etical background	oursess, or . The link be	high-school etween physi	Z knowledge cal concep	2) necessary for ts and methods						
2343040 Manufactory Z 2 The course presents three basic competencies profiling the institute - machining, technological design, metrology and quality management systems. The course is realized in the form of seminars, laboratory exercises and excursions to industrial partners. In this way, students will get acquainted with the activities of the machining group in the areas of CNC machine programming, complex CAD / CAM systems, machining tools, conventional but also unconventional machining methods and additive technologies. In the field of technological design, students will be introduced to the principles and methodology for designing production processes and systems using modern methods of production preparation (Lean Production, Just In Time, Make or Buy) and advanced software for production preparation and planning. In the field of technological design with the issue of designing production processes and complex production systems. Within metrology and quality management systems, students will then be introduced to modern product quality control technologies in the field of coordinate measurement? dimensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are demonstrated the practical role of the above competencies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality control. The course will be scheduled in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions.												
2133014 En	gineering Design IV.				<u> </u>	2						
2373040 Ro	bot Control Introduction				Z	2						
The class introduces basic of students of the second year	concepts and principles of robotics. Students will use construction kit for design, assem of the bachelor study. There is no prerequisite for this subject.	ble and programr	ne the robc	The class introduces basic concepts and principles of robotics. Students will use construction kit for design, assemble and programme the robot. This subject is recommended for students of the second year of the bachelor study. There is no prerequisite for this subject.								

Codo	of the	aroun	0501	/B23/2-	
Code	or the	group.	USQI	/DZ34Z-	-/201205

Name of the group: 5. B TZSI - Oborový p edm t l.

Requirement credits in the group: In this group you have to gain at least 3 credits (at most 5) Requirement courses in the group: In this group you have to complete at least 1 course (at most 18) Credits in the group: 3

Note on the group:

Note on the grou			1		· · · · ·	
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
2371110	Industrial Automation Lukáš Novák, Lubomír Musálek, Šárka N mcová, Jakub Jura, Pavel Trnka, Jan Hošek, Matouš Cejnek, Michal Kucha, Martin Vitoušek Pavel Trnka Pavel Trnka (Gar.)	Z,ZK	4	2P+2C+0L	-	PV
2211130	Transport Engineering Josef Kolá Josef Kolá Josef Kolá (Gar.)	Z,ZK	4	2P+2C+0L	*	PV
2121047	Hydro a Thermodynamics Michal Schmirler Tomáš Hyhlík Tomáš Hyhlík (Gar.)	Z,ZK	4	2P+2C		PV
2221221	Aeronautics and Astronautics Svatomír Slavík, Jaroslav Kousal, Jan Klesa, Tomáš enský Svatomír Slavík (Gar.)	Z,ZK	4	2P+2C+0L	-	PV
2011715	Mathematical Modeling in Technical Applications Jan Halama, Ivana Linkeová, Martin Hanek, Vladimír Prokop, David Trdli ka, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Ji í Fürst, Ji í Fürst (Gar.)	Z,ZK	3	2P+2C	*	PV
2381006	Methods and Tools for Managerial Decisionmaking Miroslav Žilka	Z,ZK	3	2P+2C		PV
2151705	Renewables energy sources	Z,ZK	4	2P+2C		PV
2181125	Process equipment and production lines Radek Šulc, Lukáš Krátký Lukáš Krátký Lukáš Krátký (Gar.)	Z,ZK	3	2P+2C		PV
2341001	Metrology Pavel Novák	Z,ZK	5	2P+0C+2L	*	PV
2321500	Technical Materials I Jana Sobotová, Jan Kr il, Vladimír Mára, Ta ana Vacková, Jakub Horník, Elena ižmárová, Jakub Horváth, Zde ka Jeníková, Stanislav Krum Stanislav Krum Stanislav Krum (Gar.)	Z,ZK	4	2P+2C+0L	-	PV
2161022	Environmental Engineering Ji í Bašta Ji í Bašta Ji í Bašta (Gar.)	Z,ZK	4	2P+2C+0L	- 5	PV
2331075	Design Consideration Pavel Rohan, Aleš Herman, Pavel Novák, Ladislav Kola ík, Bohumír Bedná , František Tatí ek Bohumír Bedná Bohumír Bedná (Gar.)	Z,ZK	4	2P+2C+0L	_	PV
2131060	Transport Technology František Lopot, Roman Uhlí, Zden k ešpíro, Jan Hoidekr Zden k ešpíro František Lopot (Gar.)	Z,ZK	4	2P+2C+0L	z	PV
2021014	Physics - Selected Topics	Z,ZK	3	2P+2C		PV
2311083	Selected Topics of Mechanics and Mechatronics Václav Bauma, Zbyn k Šika, Michael Valášek, Pavel Steinbauer Michael Valášek Michael Valášek (Gar.)	Z,ZK	4	2P+2C+0L	-	PV
2351094	Production Technology Jan Smolík, Vladimír Andrlík, Tomáš Krannich Vladimír Andrlík Vladimír Andrlík (Gar.)	Z,ZK	4	2P+2C+0L	-	PV
Characteristics of the	courses of this group of Study Plan: Code=05Q1/B2342/FSI2	20P Name=5.	B TZSI -	Oborový	pedmtl	
23/1110 Inc In this course, students will I the Industry 4.0 initiative. Spe (RMS), Use of controlled driv (Visualization and Data Colle	IUSTRIAL AUTOMATION earn the basic principles of automated systems used in current industrial practice, esp ecifically, these are PLCs and PLC networks, Distributed Control Systems (DCS) and Di- ves, Industrial sensors, Micro machining, Methods of system integration and MES syst ection), Databases and cyber security, Data analysis, Machine vision (including optical	becially focused of stributed Artificial tems, Human Mad processing and i	n the use of Intelligence chine Interfa	advanced p (DAI), Robo ace (HMI) ar ocessing) a	∠,∠K procedures in the ptic Manufactur nd SCADA System nd Machine lea	4 ne spirit of ing Systems tems arning.

2211130 Transport Engineering Z,ZK 4 Road and rail transport systems - characteristics, distribution and application vehicles. Characteristics of transport routes and dimensions of vehicles on the track link. Driving resistance and traction characteristics of the vehicles. Analysis of the driving cycle. Internal combustion engines - classification, characteristics, characteristics. Methods of power transmission with a drive mechanism. The function of basic structural units and groups of vehicles. 2121047 Hydro a Thermodynamics Z,ZK 4 Z,ZK 2221221 4 Aeronautics and Astronautics The course is intended as an introductory course in the field of aircraft technology for bachelor students. The course serves as a theoretical support of the project and bachelor thesis in the field of aircraft technology aimed at aircraft structures, engines and space. The first block is focused on obtaining an overview of aircraft structures and their operating loads, aircraft materials, production technologies and aircraft systems. The second block introduces the basics of aerodynamics. The follow-up enginer section deals with the principles and types of aircraft propulsion units. The space section presents input information in the field of space technology.

 2011715
 Mathematical Modeling in Technical Applications
 Z,ZK
 3

 Introduction to mathematic models for basic engineering problems. Basic principles of solution by means of mathematical modeling, numerical mathematics and current computers. This course will introduce finite difference, finite volume and finite element methods including different topology of domain discretization (meshes). Numerical simulations will be aimed at the solution of engineering problems of continuum mechanics.

2381006	Methods and Tools for Managerial Decisionmaking	Z,ZK	3				
The course is oriented to project management approach. During the course are solved cases that respond to practical situations. The cases are stressed on cost-returns calculations,							
on the solving interactions among costs, capacity of resources and the price. And also on the calculation typical kinds of variations and their explanation and the selection of the							
appropriate managerial	decision. The students are concerning on the right way of operational budget creation and assessment. The link on the interr	al company acco	ounting is shown				
and explain. The compu	terized models are used by explanation.						
2151705	Renewables energy sources	Z,ZK	4				
The course deals with c	verview of the currently used renewable energy sources. In a wider context, it concerns with their domestic as well as world-v	vide potential, pos	ssibilities of their				
utilization and possible	impacts on the environment. The course discusses in deeper details some of them, especially are emphasized the source ha	ving the highest p	potential in the				
Czech Republic this is r	nostly hydropower, wind energy, solar energy and energy from biomass. Other renewable energy sources are to a smaller ex	tent discussed as	well, e.g.				
geothermal energy, tida	l energy, etc.						
2181125	Process equipment and production lines	Z,ZK	3				
2341001	Metrology	Z,ZK	5				
Metrology, intergration in	to quality control, legal metrology, metrology system. Geometrical quantities metrology. Measurement uncertainty. Primary and s	econdary standar	ts. Measurement				
in 1, 2, end 3 coordinate	es. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface struct	ure - roughness,	wawiness.				
Measurement automatis	sation.						
2321500	Technical Materials I	Z,ZK	4				
2161022	Environmental Engineering	Z,ZK	4				
Application of a theory i	n environmental engineering						
2331075	Design Consideration	Z,ZK	4				
Relations between cons	struction, production technology and economic aspects. Product design with regard to casting, forming, welding, machining a	nd assembly tech	nologies. The				
basis for choosing mate	rial and technology. Structural modifications of parts with regard to quality and production possibilities. Use of CNC technology	<u>jy.</u>					
2131060	Transport Technology	Z,ZK	4				
2021014	Physics - Selected Topics	Z,ZK	3				
The subject gives stude	nts a deeper and wider knowledge of selected parts of fundamental physics courses with respect to usage of physical phenon	nena in technolog	jical applications				
(for example lasers, ele	ctron beams, roentgen diffraction, thermophysical properties of matter). Students can achieve and deepen their knowledge in	solid state physic	cs, liquids and				
they will be acquainted	with modern method of diagnostics of their properties. The subject professionally profile students for a physical topics in a futur	e study program A	Applied sciences				
in Mechanical Engineer	ing.						
2311083	Selected Topics of Mechanics and Mechatronics	Z,ZK	4				
2351094	Production Technology	Z,ZK	4				
Manufacturing machines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators. Characteristics of machines							
and equipment for realization of discrete technological processes will be explained, technical parameters, basics of construction of production machines and equipment, OS, TS design,							
automation of productio	n machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro	oduction lines. Ex	amples of				
applications of production	on machines and equipment						

Code of the group: 06Q1/B2342--/FSI19P

Name of the group: 6. B TZSI - Oborový projekt II.

Requirement credits in the group: In this group you have to gain 4 credits

Requirement courses in the group: In this group you have to complete at least 1 course (at most 18) Credits in the group: 4

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2382122	Branch Project II.	KZ	4	0P+4C+0L		PV
2372122	Branch Project II. Vladimír Hlavá Vladimír Hlavá (Gar.)	KZ	4	0P+4C+0L		PV
2022122	Branch Project II. Zuzana Budinská Zuzana Budinská	KZ	4	0P+4C+0L		PV
2112122	Branch Project II. Miroslav Španiel, Jan ezní ek, Tomáš Mareš, Karel Doubrava, Ctirad Novotný, Zden k Padovec, Michal Bartošák, Ji í Kuželka, Martin Nesládek, Tomáš Mareš Miroslav Španiel (Gar.)	КZ	4	0P+4C+0L		PV
2122122	Branch Project II. Hana Schmirlerová, Jakub Suchý, Pavel Sláma, Michal Schmirler Michal Schmirler (Gar.)	KZ	4	0P+4C+0L		PV
2132122	Branch Project II. František Lopot, Karel Petr, Marek Štádler, Roman Uhlí, Václav van ara, Zden k ešpíro, Eliška Cézová, Martin Dub, Jan Flek, František Lopot František Lopot (Gar.)	КZ	4	0P+4C+0L		PV
2152122	Branch Project II. Michal Kolovratník, Mat j Vodi ka, Jan Špale, Jan Syblík, Michal Cihlá , Pavel Skopec, Jakub Maš uch, Jan Opat il, Václav Novotný, Jan Št pánek	КZ	4	0P+4C+0L		PV
2162122	Branch Project II. Vladimír Zmrhal, Roman Vav i ka, Martin Barták, Vojt ch Zav el Martin Barták Martin Barták (Gar.)	KZ	4	0P+4C+0L	6	PV
2182122	Branch Project II. Radek Šulc, Stanislav Solna, Jan Sko ilas, Tomáš Jirout, Ji í Moravec, Lukáš Krátký, Jaromír Štancl Lukáš Krátký Lukáš Krátký (Gar.)	КZ	4	0P+4C+0L		PV

2212122	Branch Project II. Petr Hatschbach, Gabriela Achtenová, Old ich Vítek, Josef Kolá, Václav Jirovský, Libor ervenka, Jan Ban ek, Vít Beránek, Ivan Bortel, Petr Hatschbach Old ich Vítek (Gar.)	KZ	4	0P+4C+0L	*	PV	
2222122	Branch Project II. Milan Dvo ák, Jaroslav Kousal, Jan Klesa, Tomáš enský, Jaromír Ku era, Jakub Valenta, Ji í Teichman, Aleš Kratochvíl Milan Dvo ák (Gar.)	ΚZ	4	0P+4C+0L		PV	
2242122	Branch Project II. Matej Daniel, Lukáš Horný, Hynek Chlup, Jakub Kronek, Kristýna Kubášová Matej Daniel Matej Daniel (Gar.)	ΚZ	4	0P+4C+0L		PV	
2312122	Branch project II. Václav Bauma, Zbyn k Šika, Michael Valášek, Pavel Steinbauer, Jan Zav el Michael Valášek Michael Valášek (Gar.)	KZ	4	0P+4C+0L	*	PV	
2322122	Branch Project II. Jana Sobotová, Ji í Cejp, Pavlína Hájková, Jan Kr il, Vladimír Mára, Ta ana Vacková, Jakub Horník, Ladislav Cvr ek, Elena ižmárová, Petr Špatenka Petr Špatenka (Gar.)	KZ	4	0P+4C+0L		PV	
2332122	Branch project II. Aleš Herman Aleš Herman Aleš Herman (Gar.)	KZ	4	0P+4C+0L		PV	
2342122	Branch Project II. Ji í Kyncl Jan Podaný (Gar.)	ΚZ	4	0P+4C+0L		PV	
2352122	Branch Project II. Vladimír Andrlík, Tomáš Krannich, Michal Fürbacher Vladimír Andrlík Vladimír Andrlík (Gar.)	KZ	4	0P+4C+0L		PV	
2012122	Branch Project II. Jan Halama, Ivana Linkeová, Marta Hlavová, Vladimír Prokop, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Ji í Fürst, Radka Keslerová, Ji í Fürst Ji í Fürst (Gar.)	ΚZ	4	0P+4C+0L	*	PV	
Characteristics of	the courses of this group of Study Plan: Code=06Q1/B2342/FSI1	9P Name=6.	B TZSI -	Oborový	projekt	II.	
2382122	Branch Project II.				KZ	4	
2372122	Branch Project II.				KZ	4	
Individual preparation fo	r a future bachelor thesis. Main task is a research of problematics, preparation of experimer t report about his advances in the work	nts, introduction c	on equipme	nt, data colle	ection etc. A	As a result,	
2022122	Branch Project II.				KZ	4	
The conception of the s	ubject is on an individual base the topics are related to the professional profile of students. S	Students are guid	ed to the a	pplication of	possessed	knowledge in	
solution of a given probl	em together with an individual approach. The achieved results are presented in the end of s	emester, if they a	are suppose	ed to be a pa	irt of bache	lor thesis.	
2112122	Branch Project II.				KZ	4	
2122122	Branch Project II.				KZ	4	
2132122	Branch Project II.				KZ	4	
Design. construction. pr	Dranch Project II. piect of a simple facility, device, machine, etc., from the field of compressors, cooling technic	ques. thermal ins	ulation.	I	rz	4	
2162122	Branch Project II.				KZ	4	
Project, dimensioning an source of heat.	nd designing solution of basic elements for heating, ventilation and air conditioning plants, de	evices for air pollu	tion control	, air feed and	d systems v	vith recoverable	
2182122 Theoretical introduction for the food, chemical, p	Branch Project II. to selected technologies of process technology with a subsequent excursion. The work on a rocessing and ecology industries.	semester projec	t focused o	n the issue c	KZ of machines	4 and apparatus	
2212122	Branch Project II.				KZ	4	
Project training in solutio	Propos Project II				K2	4	
The Branch Project assi	gnment is largely based on the practical needs of the industry or the research and develop	ment obiectives o	f the univer	 sitv. The cor	r∧∠ ∣ itent is a st	4 ructural design	
of a selected part of the	airplane structure including the creation of a 3D model of the designed structure, determination	on of the loading	and the str	ess analysis	propositio	n and execution	
of experiment on design	ed part of structure (if required). The conclusion is a technical report describing the propose	ed solution					
2242122	Branch Project II.				KZ	4	
2312122	Branch project II.				KZ	4	
2322122	Branch project II.					4	
2332122	Branch Project II.					4	
Work on specialized tas	ks.			I	rz	4	
2352122 Branch Project II.						4	
The course is focused on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will get acquainted with the problems of manufacturing machines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations with the supervisor proceed in professional solution of the problem. At the end of the semester students present their work on small oral examination in which they present the work performed, the coherence and							
2012122	Branch Project II				к 7	4	
Course consists of indiv	idual assignment. Student works under the guidance of supervisor. Regular meetings with s	supervisor are su	pposed ead	l ch week of s	emestr. Stu	dent prepares	
the written report descri	bing methods and results.						

Code of the group: 06Q2/B2342--/FSI19P Name of the group: 6. B TZSI - Bakalá ská práce

Requirement credits in the group: In this group you have to gain 8 credits

Requirement courses in the group: In this group you have to complete at least 1 course (at most 18)

Credits in the group: 8 Note on the group:

note on and 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
2183992	Bachelor Thesis Radek Šulc, Martin Dostál, Vojt ch B lohlav, Stanislav Solna, Jan Sko ilas, Tomáš Jirout, Ji í Moravec, Lukáš Krátký, Jaromír Štancl Tomáš Jirout Tomáš Jirout (Gar.)	Z	8	0P+8C		PV
2373992	Thesis Vladimír Hlavá Tomáš Vyhlídal (Gar.)	Z	8	0P+8C	*	PV
2383992	Bachelor Thesis František Freiberg František Freiberg (Gar.)	Z	8	0P+2C		PV
2013992	Bachelor Thesis Jan Halama, Ivana Linkeová, Marta Hlavová, Jan Valášek, Lud k Beneš, Tomáš Bodnár, Ji í Fürst, Radka Keslerová, Olga Majlingová, Ji í Fürst (Gar.)	Z	8	0P+8C	*	PV
2023992	Bachelor Thesis Zuzana Budinská Zuzana Budinská	Z	8	0P+8C		PV
2113992	Bachelor Thesis Miroslav Španiel, Jan ezní ek, Tomáš Mareš, Karel Doubrava, Ctirad Novotný, Martin Nesládek, Karel Vítek Tomáš Mareš Miroslav Španiel (Gar.)	Z	8	0P+8C		PV
2313992	Bachelor Thesis Václav Bauma, Zbyn k Šika, Michael Valášek, Pavel Bastl, Petr Beneš, Ivo Bukovský, Martin Ne as, Zden k Neusser, Jan Pelikán, Michael Valášek Michael Valášek (Gar.)	Z	8	0P+8C		PV
2133992	Bachelor Thesis František Lopot, Jakub Milan Hradecký František Lopot František Lopot (Gar.)	Z	8	0P+8C		PV
2153992	Bachelor thesis Michal Kolovratník, Mat j Vodi ka, Jan Špale, Jan Syblík, Michal Cihlá, Pavel Skopec, Jakub Maš uch, Jan Opat il, Václav Novotný, Jan Št pánek	Z	8	0P+8C		PV
2163992	Bachelor Thesis Vladimír Šulc Vladimír Zmrhal Vladimír Zmrhal (Gar.)	Z	8	0P+8C	6	PV
2213992	Bachelor Thesis Petr Hatschbach, Gabriela Achtenová, Old ich Vítek, Josef Kolá, Václav Jirovský, Jan Ban ek, Vít Beránek, Ivan Bortel, Vít Dole ek, Petr Hatschbach Old ich Vítek (Gar.)	Z	8	0P+8C	*	PV
2223992	Thesis Milan Dvo ák (Gar.)	Z	8	0P+8C		PV
2243992	Bachelor Thesis Matej Daniel, Lukáš Horný Matej Daniel Matej Daniel (Gar.)	Z	8	0P+8C		PV
2323992	Bachelor thesis Zde ka Jeníková Jana Sobotová Jana Sobotová (Gar.)	Z	8	0P+8C		PV
2333992	Bachelor thesis Antonín K íž, Pavel Rohan, Barbora Bryksí Stunová, Aleš Herman, Ji í Kucha, Ladislav Kola ík, Bohumír Bedná, František Tatí ek, Jan ermák, Ladislav Kola ík Ladislav Kola ík (Gar.)	Z	8	0P+8C		PV
2343992	Thesis Jan Podaný (Gar.)	Z	8	0P+8C		PV
2353992	Bachelor Thesis Vladimír Andrlík Petr Kolá (Gar.)	Z	8	0P+8C+0L	-	PV
2123992	Thesis, Department of Fluid Dynamics and Thermodynamics Michal Schmirler Michal Schmirler (Gar.)	Z	8	0P+8C		PV

Characteristics of the courses of this group of Study Plan: Code=06Q2/B2342--/FSI19P Name=6. B TZSI - Bakalá ská práce

2183992	Bachelor Thesis	Z	8		
2373992	Thesis	Z	8		
Each student will solve	his individual theme under guiding of his individual supervising department specialist. Result is his/her bachelor thesis.				
2383992	Bachelor Thesis	Z	8		
2013992	Bachelor Thesis	Z	8		
2023992	Bachelor Thesis	Z	8		
The aim of the subject i	s to inform students with all general rules of final thesis formation and due to the regular consultations with own thesis superv	visor to continue i	n professional		
solution of a given prob	lem and on preparation of the own text of final thesis. Individual and active approach of students is expected.				
2113992	Bachelor Thesis	Z	8		
2313992	Bachelor Thesis	Z	8		
2133992	Bachelor Thesis	Z	8		
2153992	Bachelor thesis	Z	8		
Bachelor thesis is final	individual work. This work checks ability of logical independent technical thinking and treatment with technical materials. There	e is applied acqu	ired knowledge		
from previous study per	riods.				
2163992	Bachelor Thesis	Z	8		
Bachelor Thesis is final individual work. This work checks ability of logical independent technical thinking and treatment with technical materials. There is applied acquired knowledge					
from previous study periods.					
2213992	Bachelor Thesis	Z	8		

			Y				
2223992	Thesis	Z	8				
The Bachelor Thesis as	signment is largely based on the practical needs of the industry or the research and development objectives of the university.	The content is a	structural design				
of a selected part of the	airplane structure including the creation of a 3D model of the designed structure, determination of the loading and the stress a	nalysis, propositio	on and execution				
of the experiment with o	lesigned part of structure under the leadership of consultants and supervisors of the work (if required). Working out of the ba	chelor work.					
2243992	Bachelor Thesis	Z	8				
2323992	Bachelor thesis	Z	8				
2333992	Bachelor thesis	Z	8				
2343992	Thesis	Z	8				
Sources of information	n the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology.	Principles of rese	earch and work				
in laboratories. The prin	ciples of work safety in technological devices. Work on specialized tasks related to the focus of a thesis.						
2353992	Bachelor Thesis	Z	8				
The course focuses on	processing the final thesis within the scope of the assigned topic of the bachelor thesis. The student is acquainted with the g	eneral principles o	of the final thesis				
and during regular weekly consultations with the supervisor proceeds in the professional solution of the assigned problem and at the same time works on the actual text of the final							
thesis. In the course of the solution, the student completes a small oral presentation where the work in progress is presented.							
2123992	Thesis, Department of Fluid Dynamics and Thermodynamics	Z	8				

Name of the block: Jazyky Minimal number of credits of the block: 2 The role of the block: J

Code of the group: 04J2/B2342--/FSI15P Name of the group: 4. B TZSI Requirement credits in the group: In this group you have to gain 2 credits Requirement courses in the group: In this group you have to complete 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	*	J
2041063	French - Bachelor Exam /FME Michaela Schusová, Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.)	Z,ZK	2	0P+2C	*	J
2041062	German - Bachelor Exam / FME Michaela Schusová, Jaroslava Kommová, Eliška Vítková, Petr Laurich Jaroslava Kommová Jaroslava Kommová (Gar.)	Z,ZK	2	0P+2C	*	J
2041065	Russian - Bachelor Exam / FME Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková Dušana Jirovská (Gar.)	Z,ZK	2	0P+2C	*	J
2041064	Spanish - Bachelor Exam / FME Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková Jaime Andrés Villagómez (Gar.)	Z,ZK	2	0P+2C	*	J

Characteristics of the courses of this group of Study Plan: Code=04J2/B2342--/FSI15P Name=4. B TZSI

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 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.					
2041063	French - 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 diff	iculties, to take pa	rt in discussions,			
to write a summary, a re	sport and an essay, to read technical texts, to master grammar at advanced level.					
2041062	German - Bachelor Exam / FME	Z,ZK	2			
Mapped to the Common	European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater diff	iculties, to take pa	rt in discussions,			
to write a summary, a re	sport 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 diff	iculties, to take pa	rt in discussions,			
to write a summary, a re	sport 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.						

List of courses of this pass:

Code	Name of the course	Completion	Credits
2011009	Mathematics III An introductory course in ordinary differential equation and infinite series.	Z,ZK	5
2011018	Constructive Geometry The subject is focused on geometric objects in the space - curves, surfaces and solids and their properties and mutual relation	Z,ZK	5
2011067	Mathematics I.	Z,ZK	6
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.			
2011068	Mathematics II.	Z,ZK	6
Open and closed	set, boundary in E^k. Real function of k-variables. Partial derivatives and differentiability. Gradient and directional derivative. Different	ial operators div (d	ivergence)
and curl (rotation). F	unction given implicitly. Local and global (= absolute) extremes of a function of more variables. Double integral, volume (=triple) integral, covindrical and subscienced coordinates. A simple smooth curve and line integral of a scalar and vector function. Circulation and Greek	Fubini theorem. Tra	insformation
field, independence	so f a line integral on the path. Simple smooth surface and surface integral of a scalar function and a vector function. Flow of a vector	or field through a su	urface. The
	Gauss-Ostrogradskij theorem.		
2011715	Mathematical Modeling in Technical Applications	Z,ZK	3
This course will intr	oduce finite difference. finite volume and finite element methods including different topology of domain discretization (meshes). Nume	erical simulations w	/ill be aimed
	at the solution of engineering problems of continuum mechanics.		
2012035	Algorithmization and Programming Fundamentals	KZ	4
Programming in N Writting M-script In	IATLAB and its programming language. MATLAB command line. Elementary commands, variable, assignment and expression. Matri put and output, Condition and cycle. Algorithmization of simple problems in MATLAB, Graphical commands, Matrix operations, Syste	ices, vectors and o ms of linear equation	perations.
and functions. St	ructure of program. Variables, expressions, assignment, and input / output commands. switch. For cycle. Arrays and files. Pointers. St	ructures. Algorithm	nization of
simple programs	minimum, mean, norm, numerical integration, bisection method, Newton method, matrix operations. Direct methods for solution of	systems of linear e	quations.
2012122	Branch Project II.	KZ	4
Course consists of	the written report describing methods and results.	or semestr. Stude	nt prepares
2013044	Mathematics Repetitory	Z	2
Lessons are inten	ded for students who expect problems at exams from mathematics. Lessons have a form of seminary with a short introduction to the	ory and a variety o	f exercises
2012066	ranging sometimes even from level of grammar school and aimed mainly to Mathematics I and III.	7	2
Students will learn	the basics of probability theory (random experiment, probability, random variable, probability distribution, characteristics of random	∣	ity models,
multivariate random	variable and its characteristics, laws of large numbers and limit theorems) and the basic principles of statistical inference (frequency	analysis, paramete	er estimation
, hypothesis testing	g, regression analysis and more). The application of this knowledge we can found in all areas where it is necessary to evaluate the re-	esults of experimer	t is the use
parameter estimat	of these methods for the control of quality, reliability and risk assessment.	ient. Also importan	
2013992	Bachelor Thesis	Z	8
2021014	Physics - Selected Topics	Z,ZK	3
The subject gives s	tudents a deeper and wider knowledge of selected parts of fundamental physics courses with respect to usage of physical phenomer s, electron beams, roentgen diffraction, thermonbysical properties of matter). Students can achieve and deepen their knowledge in s	a in technological	applications
they will be acquain	ted with modern method of diagnostics of their properties. The subject professionally profile students for a physical topics in a future si	tudy program Appli	ed sciences
	in Mechanical Engineering.		
2021026	Physics I pamics of a particle motion, Principle of conservation of energy. System of particles, centre of mass. Bioid body. Continuum, elastic pro	Z,ZK	5 Oscillations
waves. Fluid me	chanics of a particle motion. I miciple of conservation of energy, dystem of particles, centre of mass. Right body. Continuum, elastic pro- chanics. Temperature and heat transfer. Kinetic theory of gases. Thermodynamics. Electric field, current, conductivity, resistance. Co	inductors, semicon	ductors,
insulators. Magneti	c field. Magnetic materials. Laboratories - accuracy of measurements, systematic and random errors, uncertainty of direct and indire measurement of experiments related to the lectures.	ct measurements,	regression,
2021027	Physics II	Z,ZK	4
Faraday's law of ele	ctromagnetic induction. Maxwell's equations, electromagnetic waves. Light, wave optics, geometrical optics. Quantum properties of elect atter. Photoelectric effect, Wave-particle mature of matter. Quantum-mechanical description of particle's motion. Hydrogen atom and	periodic system of	s. Interaction
Spectra, x-rays, ;las	ser. Band theory of solids, semiconductors. Nucleus, radioactivity, sources of nuclear energy. Laboratories - measurements of 6 expe	riments related to t	the lectures.
2022122	Branch Project II.	KZ	4
The conception of	the subject is on an individual base the topics are related to the professional profile of students. Students are guided to the application provider to the application of the professional profile of students are proceeded in the and of comparison.	on of possessed kr	owledge in
2023012	Practical Class in Physics II	Z	2
The subject is inted	ed for students who need more detailed practising and improvement (including knowledge from former physics coursess, or high-scl	hool knowledge) ne	ecessary for
successful finishing	Physics II course. The instructions are analogical to seminars with a short corresponding theoretical background. The link between p of solution of typical problems is underlying.	hysical concepts a	nd methods
2023013	Practical Class in Physics I	Z	2
I ne subject is inted	ed for students who need more detailed practising and improvement (including knowledge from former physics coursess, or high-scl Physics I course. The instructions are analogical to seminars with a short corresponding theoretical background. The link between p	nooi knowledge) ne hysical concepts a	ecessary for
	of solution of typical problems is underlying.	, 5.66. 551100910 0	
2023992	Bachelor Thesis	Z	8
The aim of the sub	oject is to inform students with all general rules of final thesis formation and due to the regular consultations with own thesis supervise adjustice and a properties of the gun total of final thesis lead a stice approach of the supervise adjustice and a stice approach of the supervise adjustice and a stice approach of the supervise adjustice a	or to continue in p	rofessional
	solution of a given problem and on preparation of the own text of linar thesis. Individual and active approach of students is expe	soleu.	

2041061	English-Bachelor Exam	Z,ZK	2
Mapped to the Corr	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	ies, to take part in	discussions,
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2041062	German - Bachelor Exam / FME	Z,ZK	2
Mapped to the Corr	mon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	ies, to take part in	discussions,
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		
2041063	French - Bachelor Exam /FME	Z,ZK	2
Mapped to the Corr	imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult	ies, to take part in o	discussions,
	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.		-
2041064	Spanish - Bachelor Exam / FME	Z,ZK	2
wapped to the Corr	Imon European Framework Level B2. The aim is to understand spoken language and lectures on technical topics without greater difficult to write a summary a report and an access to read topical toxic, to master grammar at advanced level	lies, to take part in (discussions,
2044065	to write a summary, a report and an essay, to read technical texts, to master grammar at advanced level.	7 71/	2
2041000 Manned to the Corr	RUSSIAII - DAUTEUU EXATT / FIVIE	$\angle, \angle \mathbf{R}$	
mapped to the Con	to write a summary a report and an essay to read technical texts to master grammar at advanced level	les, to take part int	13003310113,
2111103	Strength of Materials II	7 7K	5
This course is to	p provide an advanced analysis of machine members. It also provides the prerequisite for other special courses concerning the theory	v of elasticity and	plasticity.
2112122	Branch Project II.	KZ	4
2113992	Bachelor Thesis	7	8
2121046	Thermomechanics	7 7K	5
Basic laws of therm	Incrimonics State equation of ideal as Ideal and semi-ideal pases and their properties. Reversible and typical irreversible processes	of ideal and semi-	ideal nases
Mixtures of gase	s. Real gases and vapours, reversible and irreversible processes. Cycles of typical motors and machines. Moist air, Fundamentals of	chemical thermod	vnamics.
Thermodynamics	of chemical reactions. Basic cases of heat transfer. Steady heat conduction. Heat convection. Similarity, a criterion equation. Heat tra	Insfer during phase	e changes.
	Thermal radiation. Combined cases of heat transfer. Heat exchangers.	01	0
2121047	Hydro a Thermodynamics	Z,ZK	4
2121502	Fluid Dynamics	Z.ZK	5
2122122	Branch Project II.	KZ	4
2123992	Thesis Department of Fluid Dynamics and Thermodynamics	7	8
2120002	Machine Elements and Mechanisms II	76	3
Preliminary design	design calculations and anlication of axles and shafts sliding and rolling bearings shaft connections elements of crank mechanism r	pipelines and their	
i rominiary doorgri,	and fittings.		
2131060	Transport Technology	7.7K	4
2131512	Machine Elements and Mechanisms I	7.7K	6
Joints and ioining e	lements (screwed, clamped, splined, welded, riveted, soldered and adhesive joints; joints with use of feathers, pins, tenons, cotters, ke	vs). Mechanical tr	ansmissions
(belt, chain, fricti	on, gear drives). Seminars are devoted to practical individual solution of simple design projects - tasks with motion screws, preloaded	connecting bolts,	clamped,
pressed, splined ar	d key joints between shafts and hubs and tasks with welded and riveted joints. Sketching of machine elements and their simple assert	nbly units is also in	dispensable
	seminar work.		
2132031	Engineering Design I.	KZ	3
	Basic of technical representation, dimensioning and tolerancing.		1
2132122	Branch Project II.	KZ	4
2133013	Engineering Design III.	Z	2
	Design of assembly unit (draft drawing, detail drawing, assembly drawing, technical report)		1
2133014	Engineering Design IV.	Z	2
2133025	Design	Z	4
Design	n, design calculations and their aplications in case of geared transmissions, axles and shafts, sliding and rolling bearings, shaft coupli	ngs and clutches.	
2133992	Bachelor Thesis	Z	8
2141504	Electric Circuits and Electronics	Z,ZK	4
Introduction into th	neory of electrical circuits, analysis special types of electrical circuits as DC and AC. Transient states in circuits with accumulators of e	energy. El. Power a	nd Energy.
Introduction into	electronics. Principle and typical parameters of basic semiconductor components. Application in electronic circuits (rectifier, stabilized	r, power control, op	perational
	amplifier). Analogue and digital circuits. Principle of analogue and digital signal processing. Logical circuits, converters, micropro	cessor.	
2141505	Electrical machines and drives	Z,ZK	4
AC el. curcuits. Ele	concal power and energy. Calculation, measurement, power factor. Magnetic circuit, materials, hysteresis loop. Electromagnet. Transi	torque oboroctorio	tio apood
control Synchrono	us machines DC-machines principle parameters operating conditions construction starting speed control speed-torque character	istic Low-voltage i	nstruments
Control. Cynonionol	Low-voltage distribution system.	iono. Lotti vonago i	noti amonto.
2151705	Renewables energy sources	7 7K	4
The course deals w	vith overview of the currently used renewable energy sources. In a wider context, it concerns with their domestic as well as world-wide	potential, possibi	lities of their
utilization and pos	sible impacts on the environment. The course discusses in deeper details some of them, especially are emphasized the source havir	ng the highest pote	ential in the
Czech Republic	this is mostly hydropower, wind energy, solar energy and energy from biomass. Other renewable energy sources are to a smaller ex	tent discussed as	well, e.g.
	geothermal energy, tidal energy, etc.		
2152122	Branch Project II.	KZ	4
	Design, construction, project of a simple facility, device, machine, etc., from the field of compressors, cooling techniques, thermal in	nsulation.	
2153005	Fundamentals of Energy Conversions	Z	1
2153992	Bachelor thesis	Z	8
Bachelor thesis is	final individual work. This work checks ability of logical independent technical thinking and treatment with technical materials. There is	s applied acquired	knowledge
	from previous study periods.		
2161022	Environmental Engineering	Z,ZK	4
1	Application of a theory in environmental engineering		

2162122 Project, dimension	Branch Project II. ing and designing solution of basic elements for heating, ventilation and air conditioning plants, devices for air pollution control, air feed	KZ and systems with	4 recoverable
	source of heat.		
2163992	Bachelor Thesis	Z	8
Bachelor Thesis is	tinal individual work. This work checks ability of logical independent technical thinking and treatment with technical materials. There i from previous study periods.	s applied acquired	knowledge
2181026	Momentum, Mass and Heat Transfer	Z,ZK	5
Fundamentals of	transport phenomena balances in homogeneous fluids. Navier-Stokes equations. Momentum transport in turbulent flows. Mechanical	energy equation.	Residence
time distributions in	o continuous systems. Conduction heat transfer. Forced and natural convection heat transfer. Heat transfer with phase changes and the	rmal radiation. Mult	icomponent
2181125	Process equipment and production lines	7 7K	3
2101123	Chomietry	2,2N	3
Z 10ZU 19 General chemist	UTETITISTLY	n∠ ∩ natter thermo	dynamics
phase equilibriur	n, chemical reactions, reaction engineering), the remaining 1/3 is devoted to organic chemistry (hydrocarbons, polymers) and bioche	mistry. Laboratory	practice is
	oriented upon the material properties measurement.	5	
2182122	Branch Project II.	KZ	4
Theoretical introdu	ction to selected technologies of process technology with a subsequent excursion. The work on a semester project focused on the iss	ue of machines an	d apparatus
	for the food, chemical, processing and ecology industries.		
2183014	Progressive Processes of Energy Utilization	Z	2
The scope of this s	ubject is to introduce the fields of study in bachelor study programs "Engineering" and "Theoretical Fundamentals in Mechanical Engine in Environmental, Device and Drocess Engineering, Jo the field of Environmental Engineering, fundamentals of besting, vertilation, or	ering". Student gets	s knowledge
	in Environmental, Fower and Flocess Engineering. In the field of Environmental Engineering, fundamentals of fleating, ventilation, or rs and protection against dust and poise are presented. As for Power Engineering, heat and electricity production from fossil and rene	wable sources is r	oresented
needs and applica	ations of these energy forms in the industrial and private sectors are discussed. In the field of Process Engineering, technologies, mac	chines and equipm	ent in food,
consumer and che	mical industries, pharmacy, biotechnologies and waste treatment technologies are presented. Based on this information, student gets fi	nally more detailed	information
	during the processing of a brief seminar paper on selected topic, in which she/he is interested in.		
2183992	Bachelor Thesis	Z	8
2211130	Transport Engineering	Z,ZK	4
Road and rail trans	port systems - characteristics, distribution and application vehicles. Characteristics of transport routes and dimensions of vehicles on the	ne track link. Drivin	g resistance
and traction chara	acteristics of the vehicles. Analysis of the driving cycle. Internal combustion engines - classification, characteristics, characteristics. Me	ethods of power tra	ansmission
2212122	Richard Brooch Brooct II	K 7	1
2212122	DIdIICII FIUJECI II. Project training in solution of design task based on industry requirements		4
2213014	Transportation and Aerospace Technology	7	2
Design and testing	g of ground transportation vehicles, control systems, aircraft structures and propulsions. Selected topics of transportation and aerospa	ace technology are	presented
in seminars and by	means of laboratory exercises. Information about possibility of master study and project work at CTU, trainee and internship in reputat	ole firms, both in tra	ansportation
	and aerospace technology.		
2213992	Bachelor Thesis	Z	8
2221221	Aeronautics and Astronautics	Z,ZK	4
The course is inter	nded as an introductory course in the field of aircraft technology for bachelor students. The course serves as a theoretical support of t	he project and bac	helor thesis
in the field of airc	raft technology aimed at aircraft structures, engines and space. The first block is focused on obtaining an overview of aircraft structure	es and their opera	ting loads,
all'crait materiais,	production technologies and ancian systems. The second block introduces the basics of aerodynamics. The follow-up enginer section trops of aircraft propulsion units. The space section presents input information in the field of space technology.	r deals with the ph	ncipies and
2222122	Branch Project II	K7	4
The Branch Project	t assignment is largely based on the practical needs of the industry or the research and development objectives of the university. The	content is a struc	tural design
of a selected part of	of the airplane structure including the creation of a 3D model of the designed structure, determination of the loading and the stress analy	ysis, proposition ar	nd execution
	of experiment on designed part of structure (if required). The conclusion is a technical report describing the proposed solution	on	
2223992	Thesis	Z	8
The Bachelor Thes	sis assignment is largely based on the practical needs of the industry or the research and development objectives of the university. The	e content is a struc	tural design
of a selected part of	of the airplane structure including the creation of a 3D model of the designed structure, determination of the loading and the stress analy experiment with designed part of structure upder the loadership of consultants and supervisors of the work (if required). Working out of	ysis, proposition ar	d execution
22/2122	Rranch Project II		. 1
2242122	Bigholor Thesis	7	4 0
2243992	Salastad Tapics of Mashanics and Mashatranics	Z 772	0
2311083	Selected Topics of Mechanics and Mechatronics	2,2K	4
Z3111U1 Mechanics I deals	VIECHALIES I. with the basic concents of statics. There are described the methods of solution of equilibrium of particles and rigid bodies and their svo	∠,∠N stems with and with	4
	There are introduced the methods of description of position and motion of particles and rigid bodies.		lout motion.
2311107	Mechanics III.	Z.ZK	7
Mechanics III deal	s with the basic concepts of dynamics. Methods of solving the dynamics of mass particle and body motion and their systems are des	cribed. Methods fo	r describing
	and solving vibrations of systems.		
2312122	Branch project II.	KZ	4
2313028	Career in Engineering	Z	2
	The goal is to teach the principles of engineering, tits fundamental concepts, personal profile and career procedure in industrial er	terprize.	
2313040	Introduction into applied mechanics and mechatronics	Z	2
2313992	Bachelor Thesis	Z	8
2321039	Materials Science II.	Z,ZK	4
Fundamentals of n	netallurgy, iron-carbon alloys and influence of other elements, phase transformations, thermal, combined chemical and thermal and the	nermo-mechanical	processing,
2224500	Technical non-carbon alloys, non-remous metals and their alloys, plastics, structural ceramics, composites, selection of materi	ais.	Α
2321500		<u>ک,۲</u> ۲	4

History and press	Materials Science I.	KZ	3
1 instory 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	rials, structure and properties of materials and their testing, fundamentals of thermodynamics, phases and phase transformations, in	ron-carbon phase o	liagram.
2322122	Branch Project II.	KZ	4
2323014	Materials of the 21st Century	Z	2
The subject is focus	sed on characterization of structural and functional materials, which are currently used in technical practice. Attention is paid to techn	ological methods o	f production
ofa	dvanced materials, prediction and own evaluation of their properties. In addition, development trends for individual types of materials	are discussed	
2323992	Bachelor thesis	Z	8
2331075	Design Consideration	Z,ZK	4
Relations betweer	n construction, production technology and economic aspects. Product design with regard to casting, forming, welding, machining and	assembly technol	ogies. The
bas	is for choosing material and technology. Structural modifications of parts with regard to quality and production possibilities. Use of CI	NC technology.	
2332122	Branch project II.	KZ	4
2333008	Fundamental of Technology I.	Z	2
2333040	Perspective Production in Engineering	7	2
The subject focus	es on the teaching of advanced engineering technology, modern trends in production management, development of new advanced n	naterials. testing of	materials.
energy production	and presentation of the virtual factory. Classes will be a combination of practical nature of work in laboratories FS, instructional vide	os, and tours to the	e high-tech
	material-working.		0
2333992	Bachelor thesis	Z	8
2341001	Metrology	 7.7K	5
Metrology intergrati	on into quality control legal metrology metrology system Geometrical quantities metrology Measurement uncertainty Primary and secc	ndarv standarts M	easurement
in 1, 2, end 3 co	ordinates. Laserinterferometres and their applications. Geometrical surface properties. Form - and position deviations. Surface struct	ure - roughness, w	awiness.
, ,	Measurement automatisation.	, i i i i j	
2341014	Technology II.	Z.ZK	5
mechanics of chip f	prmation, cutting processes, finishing operations, non-traditional machining processes. Production rates calculation, machining econor	mics. Automation of	f processes,
	programming of manufacture. Engineering metrology. Assembly techniques. Introduction to process planing.		. ,
2342122	Branch Project II.	KZ	4
	Work on specialized tasks.	1	-
2343010	Fundamentals of Technology II.	7	2
Introduction to mac	hining. Principle of cutting process. Working parameters. Cutting tools - general characteristics, geometry, designation and symbols. The	he basic machining	processes,
their mech	anics, equipment, conditions, material removal rate determination. The shapes produced, commercial tolerance and surface finish of	btained. Laboratori	es.
2343040	Manufactory	Z	2
The course present	s three basic competencies profiling the institute - machining, technological design, metrology and quality management systems. The	e course is realized	d in the form
of seminars, labora	tory exercises and excursions to industrial partners. In this way, students will get acquainted with the activities of the machining group	o in the areas of CN	NC machine
programming, com	blex CAD / CAM systems, machining tools, conventional but also unconventional machining methods and additive technologies. In th	e field of technolog	jical design,
students will be intr	oduced to the principles and methodology for designing production processes and systems using modern methods of production prep	paration (Lean Proc	luction, Just
In Time, Make or Bu	y) and advanced software for production preparation and planning. In the field of technological design with the issue of designing prod	luction processes a	and complex
production syste	ms. Within metrology and guality management systems, students will then be introduced to modern product guality control technology		
	ins. Within historogy and quarky management systems, students will then be introduced to modern product quarky control technology	ies in the field of c	oordinate
measurement? din	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are den	ies in the field of c nonstrated the prac	oordinate
measurement? din the above compete	nersional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro	jies in the field of c nonstrated the prac I. The course will be	oordinate tical role of e scheduled
measurement? din the above compete	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions.	gies in the field of c nonstrated the prac I. The course will be	oordinate stical role of e scheduled
measurement? din the above compete 2343992	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis	yies in the field of c nonstrated the prace I. The course will be Z	oordinate tical role of e scheduled 8
measurement? din the above compete 2343992 Sources of informa	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the	pies in the field of c nonstrated the prace I. The course will be Z inciples of researc	oordinate tical role of e scheduled 8 h and work
measurement? din the above compete 2343992 Sources of informa	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Tachnology.	ies in the field of c nonstrated the prace I. The course will be Z inciples of researc sis.	oordinate tical role of e scheduled 8 h and work
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ntion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology	pies in the field of c nonstrated the prace I. The course will be Z inciples of researc sis. Z,ZK	oordinate stical role of e scheduled 8 h and work 4 f machines
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing mar and equipment for t	Thesis Thesis Thesis The field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology Theorem and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained technology	pies in the field of c nonstrated the prace I. The course will be Z inciples of researc sis. Z,ZK s. Characteristics o and equipment OS	oordinate trical role of e scheduled 8 h and work 4 f machines TS design
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p	The sis The field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Production Technology Chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines, product	pies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics o and equipment, OS poduction lines. Exa	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are production machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro- applications of production machines and equipment.	ies in the field of c nonstrated the prace I. The course will be Z rinciples of researc sis. Z,ZK s. Characteristics o and equipment, OS poduction lines. Exa	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are orduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro- applications of production machines and equipment. Branch Project II.	ies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem noties in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators adjusted of discrete technological processes will be explained, technical parameters, basics of construction of production machines are orduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro- applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge	ies in the field of c nonstrated the prace I. The course will be Z rinciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m	nensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem nacies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are orduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro- applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations	ites in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti	Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology these and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro applications of production machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro applications of production machines and equipment, respectively its parts according to the orientation of the inwork, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p	pies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso performed, the code	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti	Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology these and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines, pro applications of production machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning.	pies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervision performed, the code	oordinate trical role of a scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041	nervision method y and quality management systems, students with the form of professional excursions to industrial companies, students are dem noties in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are orduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro- applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning. Practical introduction to production machines	pies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics of and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervisor berformed, the code Z	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer	necessional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem nices in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis ation in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines, pre applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning. Practical introduction to production machines s a practical introduction to production machines and the basics of design considerations of con- struction to production machines including modern CNC technologies and the basics of design considerations of con-	pies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics of and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervisor performed, the cohe Z nponents produced	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students	In the field of equipment contains three basic parts. These are forming machines, machine to an of the production of production and quality control technical preparation of production, engineering production and quality control in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Print aboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines, preceduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, preceduction of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work preaming. Practical introduction to production machines and the basics of design considerations of production machines and the basics of design considerations of considerations of the production to production machines and the basics of design considerations of consider	ies in the field of c nonstrated the prace I. The course will be Z rinciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervisor performed, the cohe Z nponents produced tres, including the of	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC design brief,
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p	The virtual metrology and quarty management systems, students will denot be introduced to inductive product quarty control technology and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dee in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the: Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are project in applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the senseter students present their work on small oral examination in which they present the work p meaning. Practical introduction to production machines s a practical introduction to production cycle of basic types of production machines as well as CNC machining cent roduction procedures used and determination of technological conditions. Students will also familiarize themselves with machine ope	ies in the field of c nonstrated the prace I. The course will be Z rinciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the supervisor berformed, the cohe Z nponents produced tres, including the o ration, possibilities	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC design brief, of machine
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen	The winit metrology and quality management systems, students will then be influence to indeet product quality control in denotes in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality control in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis the product life cycle? marketing, construction, technical preparation of production, engineering production and quality control in a blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis thin alboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a their production machines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are dequipment, industrial manipulators and robots, their applications, single-purpose and modular machines, preaplications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work preasing. Practical introduction to production machines as well as CNC machining centrol or production procedures used and determination of technological conditions. Students will also familiarize themselves with machine oper t, production procedures and product measurement. Basic statistical and operational diagnostic methods of measurement.	ies in the field of c nonstrated the prace I. The course will be Z rinciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the supervisor performed, the cohe Z nponents produced tres, including the or ration, possibilities nent will also be defined.	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC design brief, of machine ermonstrated
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen	maximum methology and quality management systems, students win ther be innocubed to modern product quality control rectinology ensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem necessional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators reducting machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pr applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning. Practical introduction to production machines as well as CNC machining cent roduction procedures used and determination of technological conditions. Students will also familiarize themselves with machine ope t, production proper, testing procedures and product measurement. Basic statistical and operational diagnostic methods of measurements of accuracy, force, noise, vibration, temperature etc.)	ies in the field of c nonstrated the prace I. The course will be Z rinciples of researc sis. Z,ZK s. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the supervisor performed, the cohe Z nponents produced tres, including the o ration, possibilities nent will also be de	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC design brief, of machine ermonstrated
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma- and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992	maximum methology and quality management systems, students win ther be innocubed to induct in product quality control rectinology ensional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem necessional and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators reduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pr applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning. Practical introduction to production machines as well as CNC machining cent roduction procedures used and determination of technological conditions. Students will also familiarize themselves with machine ope t, production proper, testing procedures and product measurement. Basic statistical and operational diagnostic methods of measurements of accuracy, force, noise, vibration, temperature etc.) Bache	pies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK s. Characteristics of and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervisor performed, the cohe Z mponents produced tres, including the co- pration, possibilities ment will also be de	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma- and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses	maximum metabolic distribution in the second of the production machines and end of the example of the second of the product of the product of the second of the product of the second of the product of the second of the product of the product of the second of the product of the product of the second of the product of the product of the second of the product of th	pies in the field of c nonstrated the prace I. The course will be inciples of researce sis. Z,ZK s. Characteristics of and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervisor performed, the cohe Z mponents produced tres, including the co- pration, possibilities ment will also be defined and principles of the	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 f final thesis
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma- and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula	messional and geometric tolerances, surface texture. In the form off production accursions to industrial accmpanies, students are dem neisoinal and geometric tolerances, surface texture. In the form off professional excursions to industrial accmpanies, students are dem neisoin the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions Thesis thion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are roduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pr applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work p meaning. Practical introduction to production machines including modern CNC technologies and the basics of design considerations of con s will acquire the necessary knowledge of the production cycle of basic types of production machines as well as CNC machining cen rod	pies in the field of c honstrated the prace I. The course will be inciples of researce sis. Z,ZK s. Characteristics of and equipment, OS oduction lines. Exa KZ t acquainted with the with the supervisor berformed, the cohe Z mponents produced tres, including the of oration, possibilities ment will also be defined and principles of the conthe actual text	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 ne problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula	maximum termology and quarky control termology manually control manually control in the product of modulation of production and quarky control termology modulation of the product life cycle? marketing, construction, technical preparation of production, engineering production and quality control in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions Thesis this in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Prince in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work preasing. Practical introduction machines including modern CNC technologies and the basics of design considerations of considerations of considerations of considerations of a production procedures used and determination of technological conditions. Students will also familiarize themselves with machine present (measurements of accuracy, force, noise, vibration, temperature etc.) Bachelor Thesis on processing the final thesis within the scope of the assigned topic of the safet methods of measurement every for the production proper, testing procedures and production cycle of basic types of production machines awell as CNC machining c	ies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the supervisor performed, the cohe contres, including the co- ration, possibilities nent will also be de Z ral principles of the conthe actual text ed.	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula 2371110	International degenetric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem neisonal and geometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem neiso in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are orduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pro- applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work pre- meaning. Practical introduction to production machines as a practical introduction machines including modern CNC technologies and the basics of design considerations of considerations of technological conditions. Students will also familiarize themselves with machine ope to, production procedures used and determination of technological c	ies in the field of c honstrated the prace I. The course will be inciples of researce sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso performed, the cohe constitution possibilities ment will also be defined on the actual text ad. Z,ZK	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula 2371110 In this course, stud	International degemetric tolerances, surface texture. In the form of professional excursions to industrial companies, students are demencies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality control in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions. Thesis the in aboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators are dere allocation of discrete technological processes will be explained, technical parameters, basics of construction of production machines are opplications of production machines and equipment. Industrial manipulators and robots, their applications, single-purpose and modular machines, proplication of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work and during regular weekly consultations on of the problem. At the end of the semester students present their work no small oral examination in which they present the work prevaluation procedures used and betermination of technological orocase with machines including modern CNC technologies and the basics of design considerations of conditions. Statistical and poeration all also familiarize themselves with machine operation of the same time of the same forme, so accuracy, force, noise, vibration, temperature etc.) Bachelor Thesis a processing the final thesis within the scoper of the assigned topic of the basic principles of the same time work on the same time work in progress is present (measurements of accuracy, force, noise, vibration, temperature etc.) Bachelor Thesis a on processing	ies in the field of c honstrated the prace I. The course will be inciples of researce sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso performed, the cohe Z noponents produced tres, including the cohe ration, possibilities ment will also be de Z ral principles of the con the actual text ad. Z,ZK	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula 2371110 In this course, stud the Industry 4.0 initi (RMS) Lies of	meansional and degometric tolerances, surface texture. In the form of professional excursions to industrial companies, students are dem ncies in the product life cycle? marketing, construction, technical preparation of production, engineering production and quality contro in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions Thesis tion in the field. Databases and corporate literature. Normalization. Search activity. News from the field of engineering technology. Pr in laboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology chines and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators reduction machines and equipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pr applications of production machines and equipment. Branch Project II. ed on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and during regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work or meaning. Practical introduction toproduction machines including modern CNC technologies and the basics of design considerations of cord s will acquire the necessary knowledge of the production cycle of basic types of production machines as well as CNC machining cent (measurements d accuracy, force, noise, vibration, temperature etc.) Bachelor Thesis on processing the final thesis within the scope of the assigned topic of the bachelor thesis. The student is acquainted with the gene tweskly consultations with the supervisor	ies in the field of c honstrated the prace I. The course will be inciples of researc sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso performed, the cohe Caration, possibilities ment will also be de Z ral principles of the con the actual text d. Z,ZK ced procedures in the cobotic Manufacturi HMI) and SCADA	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final 4 the spirit of ng Systems Systems
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula 2371110 In this course, stud the Industry 4.0 initi (RMS), Use of of (Visualization of	Instrumentation of local production management systems, students winner be indeced product quark year with the entropy of	ies in the field of c honstrated the prace I. The course will be inciples of researc sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso performed, the cohe C Ral principles of the on the actual text con the actual text d. Z,ZK ced procedures in the cobotic Manufacture HMI) and SCADA S sing) and Machine	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final 4 the spirit of ng Systems learning
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula 2371110 In this course, stud the Industry 4.0 initi (RMS), Use of of (Visualization ar 2372041	Instrumentation of the second se	ies in the field of c honstrated the prace I. The course will be inciples of researc sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso berformed, the cohe Z nponents produced tres, including the c ration, possibilities nent will also be de Z ral principles of the on the actual text d. Z,ZK ced procedures in t cobotic Manufacturi HMI) and SCADA S sing) and Machine	oordinate ttical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine emonstrated 8 e final thesis of the final 4 the spirit of ng Systems learning.
measurement? din the above compete 2343992 Sources of informa 2351094 Manufacturing ma and equipment for r automation of p 2352122 The course is focus of manufacturing m professional soluti 2353041 The course offer machines. Students technologies and p and tool adjustmen 2353992 The course focuses and during regula 2371110 In this course, stud the Industry 4.0 initi (RMS), Use of of (Visualization ar 2372041	Instrumentation of induced processes will be explained, technical preparation of production, engineering production and quality control in 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions in a 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions in a 4-hour blocks, once every 14 days due to higher efficiency of teaching within individual teaching blocks and excursions in aboratories. The principles of work safety in technological devices. Work on specialized tasks related to the focus of a the Production Technology thins and equipment contains three basic parts. These are forming machines, machine tools and industrial robots and manipulators ealization of discrete technological processes will be explained, technical parameters, basics of construction of production machines are dequipment, industrial manipulators and robots, their applications, single-purpose and modular machines, pr applications of production machines and equipment, industrial manipulators and robots, their applications, and equipment. Branch Project II. d on elaboration of individual work, which student solves in close cooperation with the head of the assigned topic. The student will ge achines and the equipment, respectively its parts according to the orientation of their work, and uring regular weekly consultations on of the problem. At the end of the semester students present their work on small oral examination in which they present the work (meaning. Practical introduction to production machines as well as CNC machining cent roduction procedures used and determination of technological conditions. Students will also familiarize themselves with machine ope t, production proper, testing proceeds in the professional solution of the assigned problem and at the same time works thesis. In the course of the solution, the student completes as a small oral presentation where the work in progress is pre	ies in the field of c nonstrated the prace I. The course will be inciples of researc sis. Z,ZK S. Characteristics o and equipment, OS oduction lines. Exa KZ t acquainted with th with the superviso performed, the cohe Z noponents produced tres, including the c eration, possibilities ment will also be de Z ral principles of the on the actual text ed. Z,ZK ced procedures in the cobotic Manufacturi HMI) and SCADA S sing) and Machine KZ	oordinate trical role of e scheduled 8 h and work 4 f machines , TS design, mples of 4 he problems r proceed in erence and 2 d on CNC design brief, of machine ermonstrated 8 e final thesis of the final 4 the spirit of ng Systems Systems learning. 3 rs Students

2372083			
	Measurement in Engineering	KZ	3
Overview of sen	sor principles for measurement of non-electrical variables (temperature, position, force, speed, acceleration, torque). Calibration and	verification of mea	surement
	instruments.		
2372122	Branch Project II.	KZ	4
Individual prepar	ation for a future bachelor thesis. Main task is a research of problematics, preparation of experiments, introduction on equipment, dat	ta collection etc. As	s a result,
	student prepares a short report about his advances in the work.		
2373040	Robot Control Introduction	Z	2
The class introdu	ices basic concepts and principles of robotics. Students will use construction kit for design, assemble and programme the robot. This	subject is recomm	ended for
	students of the second year of the bachelor study. There is no prerequisite for this subject.		
2373992	Thesis	Z	8
	Each student will solve his individual theme under guiding of his individual supervising department specialist. Result is his/her bache	elor thesis.	
2381006	Methods and Tools for Managerial Decisionmaking	Z,ZK	3
The course is orier	nted to project management approach. During the course are solved cases that respond to practical situations. The cases are stressed	d on cost-returns o	alculations,
on the solving ir	teractions among costs, capacity of resources and the price. And also on the calculation typical kinds of variations and their explanat	tion and the selecti	on of the
appropriate manag	erial decision. The students are concerning on the right way of operational budget creation and assessment. The link on the internal of	company accountii	ng is shown
	and explain. The computerized models are used by explanation.		
2381054	Management and Economics of the Enterprise	Z,ZK	4
The subject is inten	ded to teach the students of the Faculty of Mechanical Engineering the basic economic starting points necessary for technical reasonin	g and to help them	understand
the basic relations	hips between economic quantities costs - revenues, expenses - incomes and other basic economic terms. The goal is for the audience	ce to be able to co	mmunicate
			_
with economists in	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of	products and servi	ces. Every
with economists in technician will enco	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of j punter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the	products and servi e operating budget	ces. Every t. In the field
with economists in technician will enco of management, t	n organizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manager.	products and servi e operating budget gement. For decision	ces. Every t. In the field on-making
with economists in technician will enco of management, t	n organizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be	products and servi e operating budget gement. For decision introduced.	ces. Every t. In the field on-making
with economists in technician will enco of management, t 2382122	n organizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II.	products and servi e operating budget gement. For decision introduced. KZ	ces. Every t. In the field on-making 4
with economists in technician will enco of management, 1 2382122 2383001	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law	products and servi e operating budget gement. For decision introduced. KZ Z	ces. Every t. In the field on-making 4 2
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid	products and servi e operating budget gement. For decisio introduced. KZ Z le a view into the C	ces. Every t. In the field on-making 4 2 Zecch Legal
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not specific to the section of the section of the sections.	products and servi e operating budget gement. For decisio introduced. KZ Z le a view into the C ecessary for stude	ces. Every t. In the field on-making 4 2 Czech Legal nts to know
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institutio	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not specially during their professional career and to learn how to work with the collection of laws.	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to	ces. Every t. In the field on-making 4 2 Czech Legal nts to know the course
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations.	products and servi e operating budget gement. For decision introduced. KZ Le a view into the C ecessary for stude At the same time to ships and to make	ces. Every t. In the field on-making 4 2 Szech Legal nts to know the course them ready
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institutio leads students to k	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make	ces. Every t. In the field on-making 4 2 Zech Legal nts to know the course them ready
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time t ships and to make Z	ces. Every t. In the field on-making 4 2 Ezech Legal nts to know the course them ready 2
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid bources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the	ces. Every t. In the field on-making 4 2 czech Legal nts to know the course them ready 2 e future. The
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid bources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future.	ces. Every t. In the field on-making 4 2 czech Legal nts to know the course them ready 2 of uture. The The second
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to main topic represent	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage ourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid bources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks ant information systems for management and planning of business processes and for support of managerial decision-making. Furtherm	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course decision	ces. Every t. In the field on-making 4 2 czech Legal nts to know the course them ready 2 e future. The The second eals with the
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to main topic represent issue of modern and	norganizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage burposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law In legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no nos, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws. Now some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks and information systems for management and planning of business processes and for support of management. The focus of the course is no tools for production management and ends with issues of current trends in project management. The focus of the course of use for production management and ends with issues of current trends in project management. The focus of the course is not course for production management and ends with issues of current trends in project management. The focus of the cou	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course de urse is not to provide	ces. Every t. In the field on-making 4 2 czech Legal nts to know the course them ready 2 e future. The The second pals with the le students
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to main topic represent issue of modern and with a detailed est	norganizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage burposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law In legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is not not, that will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws. now some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks ant information systems for management and planning of business processes and for support of management. The focus of the course provide a general view of current trends and approaches in key areas of corporate governance. The required depth	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course de urse is not to provid of individual areas	ces. Every t. In the field on-making 4 2 Ezech Legal nts to know the course them ready 2 e future. The The second eals with the le students is further
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to main topic represent issue of modern and with a detailed ex	norganizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the basic in product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple costing of product or service is valued at a selling price and therefore it is necessary to understand the simple cost of the product of th	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course de tres is not to provid of individual areas	ces. Every t. In the field on-making 4 2 czech Legal nts to know the course them ready 2 e future. The The second eals with the le students is further
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to main topic represent issue of modern a with a detailed ex 2383992	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage burposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no, stat will be regularly in touch with, especially during their professional career and to learn how to work with the collection of laws. now some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relation to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks in information systems for management and planning of business processes and for support of managerial decision-making. Furtherm proaches and tools for production management and ends with issues of current trends in project management. The focus of the course planation, but to provide a general view of current trends and approaches in key areas of corporate governance. The required depth developed within individual courses in the Master's degree program. Bachelor Thesis	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course de trise is not to provid of individual areas Z	ces. Every t. In the field on-making 4 2 Zech Legal nts to know the course them ready 2 future. The The second eals with the le students is further 8
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular so our legal institution leads students to k 2383020 The main objective course introduces to main topic represent issue of modern a with a detailed ex 2383992 TV-1	n organizations. every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of 1 pointer reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project manage burposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law n legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid burces of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no use necessary part of professional protections and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks th information systems for management and planning of business processes and for support of managerial decision-making. Furtherm pproaches and tools for production management and ends with issues of current trends in project management. The focus of the course provide a general view of current trends and approaches in key areas of corporate governance. The required depth developed within individual courses in the Master's degree program. Bachelor Thesis Physical Education	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course de true is not to provide of individual areas Z Z	ces. Every t. In the field on-making 4 2 Zech Legal nts to know the course them ready 2 of tuture. The The second call with the de students is further 8 1
with economists in technician will encr of management, t 2382122 2383001 Basic orientation in Order, particular sc our legal institution leads students to k 2383020 The main objective course introduces to main topic represent issue of modern a with a detailed ex 2383992 TV-1 TV-2	n organizations, every product or service is valued at a selling price and therefore it is necessary to understand the simple costing of 1 pounter reports and should understand the basic structure of financial statements. As a future manager, he will compile and approve the hey will learn basic managerial functions and their content. Furthermore, they will learn how to use network analysis in project managourposes, they will learn the applications of multi-criteria decision-making. The basics of marketing and strategic management will be Branch Project II. Fundamentals of Law I legal system is a necessary part of professional equipment of each expert with university degree. The aim of this course is to provid bources of law and system of law (branch of law), using tutorials, lectures, specialised literature and significant legal regulations. It is no use some practical habits and processes while putting the law on, especially in domain of contracts and other important legal relations to prepare professional presentations and to understand basic structures between law and engineering Modern Management of Businesses and Projects of the course is to introduce students to modern trends and approaches that have emerged in corporate governance in recent years he main technical and technological trends that will significantly transform the industry, its economic, environmental benefits and risks in tinformation systems for management and ends with insues of current trends in project management. The focus of the course is not provide a general view of current trends and approaches in key areas of corporate governance. The required depth developed within individual courses in the Master's degree program. Bachelor Thesis Physical Education Physical Education	products and servi e operating budget gement. For decision introduced. KZ Z le a view into the C ecessary for stude At the same time to ships and to make Z and will shape the in the near future. hore, the course de true is not to provid of individual areas Z Z Z	ces. Every t. In the field on-making 4 2 czech Legal nts to know the course them ready 2 e future. The The second call with the de students is further 8 1 1

For updated information see <u>http://bilakniha.cvut.cz/en/FF.html</u> Generated: day 2025-06-02, time 01:22.